

Separation of tungsten and molybdenum... S/828/62/000/000/016/017  
E071/E135

From tungsten sexquichloride containing about 5%  $\text{MoCl}_5$ , and from molybdenum pentachloride containing about 5%  $\text{WCl}_6$ , purified chlorides containing below 0.01% of admixture of molybdenum or tungsten respectively with yields of the main fractions of 70-80% were obtained.

There are 6 figures and 7 tables.

Card 2/2

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964410002-4

ZELIKMAN, A.N. (Moskva); BARYSHNIKOV, N.V. (Moskva); TESLITSKAYA, M.V. (Moskva)

Obtaining rhenium coatings by the method of thermal dissociation of  
its oxychloride. Izv. AN SSSR. Otd. tekhn. nauk. Mat. i gor. delo  
no.4:161-168 Jl-Ag '63. (MIRA 16:10)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964410002-4"

FILYAND, Mikhail Abramovich; SEMENOVA, Yelizaveta Ivanovna;  
POGODIN, S.A., zasluzhennyy deyatel' nauki i tekhniki RSFSR, professor doktor, retsenzenter;  
MEYERSON, G.A., prof., doktor tekhn. nauk, retsenzenter;  
ZELIKMAN, A.N., prof., doktor tekhn. nauk, retsenzenter;  
LOGINOV, A.B., red.; STERNIN, I.M., red.; KAMAYEVA,  
O.M., red.izd-va

[Properties of rare elements; a handbook] Svoistva redkikh elementov; spravochnik. Izd.2., perer. i dop. Moskva, Izd-vo Metallurgiiia, 1964. 912 p. (MIRA 17:3)

ZELIKMAN, A. P.  
995-4 21 June

## RHENIUM CONFERENCE (USSR)

Tavetnyye metally, no. 4, Apr 1963, 92-93. S/136/63/000/004/004/004

The Second All-Union Conference on Rhenium, sponsored by the Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, and the State Institute of Rare Metals, was held in Moscow 19-21 November 1962. A total of 335 representatives from 83 scientific institutions and industrial establishments participated. Among the reports presented were the following: autoclave extraction of Re from Cu concentrates (A. P. Zelikman and A. A. Peredereyev); Re extraction from the gaseous phase (V. P. Savrayev and N. L. Peysakhov); recovery of Re by sorption and ion interchange (V. I. Bibikova, V. V. Il'chenko, K. B. Lebedev, G. Sh. Tyurekhodzhayeva, V. V. Yermilov, Ye. S. Raimbekov, and M. I. Tyurekhodzhayeva); electrolytic production of carbonyl Re (A. A. Ginzburg); electrolytic

~~production of high-purity Re and its properties~~

Card 1/2

AID Nr. 995-4 21 June

RENIUM CONFERENCE [Cont'd]

S/136/63/000/004/004/004

and A. A. Nikitina); Re coatings on refractory metals produced by thermal dissociation of Re chlorides (A. N. Zelikman and N. V. Baryshnikov); plastic deformation and thermomechanical treatment of Re (V. I. Karavaytsev and Yu. A. Sokolov); growth of Re single crystals and effect of O<sub>2</sub> on their properties (Ye. M. Savitskiy and G. Ye. Chunrikov). R&TM DAW

card 2/2

L-9990-63 DWP(q)/EAT(m)/BDS--AFFTC/ASD--JD/JG  
ACCESSION NR: AP3000981 S/0149/63/000/002/0120/0126

AUTHOR: Zelikman, A. N.; Baryshnikov, N. V.

57  
56

TITLE: Obtaining rhenium coatings by thermal dissociation of rhenium  
chlorides

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 2, 1963, 120-126

TOPIC TAGS: rhenium coatings, thermal dissociation, rhenium pentachloride,  
rhenium trichloride

ABSTRACT: The deposition of rhenium coatings on tungsten filaments and  
molybdenum strips by the thermal dissociation of rhenium chlorides is in-  
vestigated. Rhenium pentachloride was found to be the most effective

independent rate. Above this temperature, ReCl<sub>5</sub> dissociates into Cl<sub>2</sub> and ReCl<sub>3</sub>.

Card 1/32

L 9980-63  
ACCESSION NR: AP3000981

and ReCl<sub>3</sub>; the latter, being only slightly volatile, slows down the rate of vaporization of ReCl<sub>5</sub>. Also, the chloride utilization reaches a maximum at about 200°C. At higher temperatures the vapor contains free Cl<sub>2</sub>, whose concentration rises with increased temperature, amounting to about 30% at 250°C. Chlorine in such quantities retards the dissociation.

Moscow Institute of Steels and Alloys.

Card 2/2

SONGINA, Ol'ga Al'fredovna; ZELIKMAN, A.N., prof., retsenzent

[Rare metals] Redkie metally. Izd.3., perer. i dop. Mc-skva, Metallurgiya, 1964. 568 p. (MIRA 17:11)

1. Kazakhskiy Gosudarstvennyy universitet im. S.M.Kirova, Alma-Ata (for Songina).

ZELIKMAN, A.N. (Moskva); OREKHOV, M.A. (Moskva)

Decomposition of tantalite concentrates by caustic potassium  
and sodium solutions at high temperatures and pressures. Izv.  
AN SSSR. Met. no.6:38-45 N-D '65. (MIRA 19:1)

1. Submitted June 11, 1964.

1. 46089-66 EWT(m)/EWP(t)/ETI IJP(c) JD  
ACC NR: AP6027194 (A, N) SOURCE CODE: UR/0078/66/011/008/1989/1991

AUTHOR: Kunev, D. K.; Belyayevskaya, L. V.; Zelikman, A. N.

37  
B

ORG: none

TITLE: The systems  $\text{MoO}_3\text{-CaMoO}_4$ ,  $\text{MoO}_3\text{-PbMoO}_4$  and  $\text{MoO}_3\text{-ZnMoO}_4$

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 8, 1966, 1989-1991

TOPIC TAGS: molybdate, calcium compound, lead compound, zinc compound, phase diagram, X-ray diffraction analysis

ABSTRACT: Thermographic and microscopic analyses were used to investigate the systems  $\text{MoO}_3\text{-CaMoO}_4$ ,  $\text{MoO}_3\text{-PbMoO}_4$  and  $\text{MoO}_3\text{-ZnMoO}_4$ . X-ray diffraction was also used to study the  $\text{MoO}_3\text{-CaMoO}_4$  system. The heating and cooling curves were taken with a Kurnakov pyrometer with differential recording. The  $\text{MoO}_3\text{-CaMoO}_4$  system has one eutectic at 25 wt. %  $\text{CaMoO}_4$  melting at  $727 \pm 3^\circ\text{C}$ . The  $\text{MoO}_3\text{-PbMoO}_4$  system has one eutectic at 49 wt. %  $\text{PbMoO}_4$  melting at  $670^\circ\text{C}$ .  $\text{PbMoO}_4$  melts without decomposing at  $1063^\circ\text{C}$ . The  $\text{MoO}_3\text{-ZnMoO}_4$  system has one eutectic at 42 wt. %  $\text{ZnMoO}_4$  melting at  $705^\circ\text{C}$ .  $\text{ZnMoO}_4$  melts with decomposition via a peritectic reaction at  $1000^\circ\text{C}$ . No acid molybdates were found in the systems studied. Some data on  $\text{MoO}_3\text{-MeMoO}_4$  systems (where Me = Cu, Fe, Pb, Zn, Ca) are presented. All these systems are of eutectic type. Lead, iron and calcium molybdates melt without decomposing, whereas zinc and copper molybdates melt with decomposition via a peritectic reaction and have lower heats of formation (from the oxides) than

Card 1/2

UDC: 541.123.2:546.776

L 46889-66

ACC NR: AP6027194

molybdates which melt congruently. Orig. art. has: 1 figure and 1 table.

SUB CODE: 07/ SUBM DATE: 07Jul65/ ORIG REF: 002/ OTH REF: 006

Card 2/2 pla

ACC NR: AP7002405

SOURCE CODE: UR/0363/66/002/012/2204/2212

AUTHOR: Zelikman, A. N.; Belyayevskaya, L. V.; Bobylev, V. M.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Kinetics of reduction of calcium tungstate and molybdate and of their isomorphous mixture with carbon

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 12, 1966, 2204-2212

TOPIC TAGS: chemical reduction, calcium compound, tungstate, molybdate

ABSTRACT: The kinetics of reduction of  $\text{CaW}_4$  and  $\text{CaMo}_4$  with carbon were studied in nitrogen at 1000-1210°C and 900-1210°C respectively; an isomorphous mixture of the two compounds was reduced at 1000-1210°C. The reduction of these salts to tungsten and molybdenum was found to take place without intermediate formation of compounds of lower valences. From the values of activation energies of the reduction reactions it follows that up to 1110°C for  $\text{CaW}_4$  and  $\text{CaW}_4 + \text{CaMo}_4$  and up to 1000°C for  $\text{CaMo}_4$ , the rate-determining step of the process is the desorption of carbon monoxide from the carbon surface ( $E = 54-105$  kcal/mole). In the high-temperature range, the reaction is determined by the first step of gasification ( $E = 22-33$  kcal/mole). In the low-temperature range, the reduction proceeds throughout the volume of the briquet, whereas in

Card 1/2

UDC: 546.41'776+546.26  
546.41'786+546.26

ACC NR: AP7002405

the high-temperature range it moves from the periphery toward the center; this is due to the inhibition of the gasification process by carbon monoxide. The reduction isotherms are adequately described by the equation  $[1 - (1 - \alpha)^{1/3}] = K\tau$ , where  $\alpha$  is the degree of reduction in fractions of unity,  $\tau$  the time, and  $K$  the rate constant of the chemical reaction. The reduction of calcium tungstate was found to be accelerated by an admixture of calcium chloride; the mechanism of action of this admixture is discussed. Orig. art. has 8 figures, 2 tables and 4 formulas.

SUB CODE: 07/ SUBM DATE: 19Mar66/ ORIG REF: 019/ OTH REF: 007

Card 2/2

L 00086-66 EWT(m)/EPF(c)/EWP(t)/EWP(b) IJP(c) JD  
ACCESSION NR: AP5022340 UR/0149/65/000/003/0108/0114  
669.293:669.294

AUTHOR: Zelikman, A. N.; Orekhov, M. A.

TITLE: Investigation of the interaction of columbium and tantalum pentoxides with solutions of sodium hydroxide at temperatures above 100 C

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 3, 1965, 108-114

TOPIC TAGS: tantalum compound, sodium hydroxide, chemical reaction, niobium compound

ABSTRACT: Starting materials were pure columbium and tantalum pentoxides and their mixtures calcined at 900 C for six hours. The tests were made in nickel autoclaves with a capacity of 100 cm<sup>3</sup>. In all tests, the weighed portion of pentoxide was 3 grams and the total volume of the solution was 60 ml. A study was made of the effect of temperature (150 and 200 C), concentration of the sodium hydroxide (1:1, 1:3, and 1:12), and duration of autoclave extraction (up to six hours) on the composition of the reaction products. It was found that the rate of the transition of the hexacolumbate to the metacolumbate decreased with an increase

Card 1/2

L 00086-66  
ACCESSION NR: AP5022340

in the concentration of the sodium hydroxide solution. At 200°C, a half hour after the temperature had been reached, the sodium hexacolumbate was completely converted into metacolumbate at a sodium hydroxide concentration of more than 2.5%. In the same way, a study was made of the interaction of tantalum pentoxide and of mixtures of the pentoxides of columbium and tantalum with solutions of sodium hydroxide. It was found that tantalum pentoxide, independent of concentration and duration of treatment with sodium hydroxide, in the temperature interval 150-200°C, forms only the anhydrous sodium metatantalate  $\text{NaTaO}_3$ . A mixture of the pentoxides of columbium and tantalum interacts with solutions of sodium hydroxide with the formation either of soluble columbium or tantalum salts or of anhydrous metasals. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Moskovskiy institut stali i splavov. Kafedra metallurgii redkikh metallov i metallokeramiki (Moscow Institute for Steel and Alloys, Faculty of

NR REF SOV: 007

OTHER: 002

Card 2/2

L 31327-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JW/JG  
ACC NR: AP5025796

SOURCE CODE: UR/0363/65/001/009/1502/1587

AUTHOR: Zelikman, A. N.; Dmitriyev, Yu. M.; Khazan, A. Z.

ORG: Institute of Steels and Alloys (Institut stali i splavov)

TITLE: Kinetics and mechanism of sublimation of tungsten dioxydichloride

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 9,  
1965, 1582-1587

TOPIC TAGS: tungsten compound, sublimation

ABSTRACT: The kinetics of sublimation of  $WO_2Cl_2$  were studied at 350-  
-500°C by continuous weighing in a stream of argon. It was shown that  
the sublimation process consists of two consecutive stages: decomposi-  
tion of  $WO_2Cl_2$  in the solid phase with the formation of  $WO_3$  and  $WOCl_4$   
and secondary reaction of  $WOCl_4$  with  $WO_3$  to form gaseous  $WO_2Cl_2$ . For  
this reason, the sublimates contain a mixture of  $WOCl_4$  and  $WO_2Cl_2$  in  
various proportions and the residue consists of  $WO_3$ . The sublimation  
rate is determined by the decomposition of solid  $WO_2Cl_2$  which is a sec-  
ond-order topochemical reaction. The apparent activation energy is

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UDC: 546.786'221'131

Card 1/2

L 31327-66

ACC NR: AP5025796

equal to 12.0 kcal/mol. In the 350-500°C range the maximum degree of sublimation is 85%. At 450-500°C, the sublimation rate is sufficiently high to be used for practical applications. Orig. art. has: 7 figures, 1 table, 6 formulas.

SUB CODE: 07/ SUBM DATE: 30Mar65/ ORIG REF: 008/ OTH REF: 000

Card 2/2 JV2

L 13697-66 EFT(m)/EFP(t)/EWP(b) IJP(c) JD/JG  
ACC NR: AP6002552 SOURCE CODE: UR/0286/65/000/023/0043/0048  
INVENTOR: Zelikman, A. N.; Dregan, L. 38B  
ORG: none  
TITLE: Method of selective extraction of molybdenum and rhenium. Class 40, No. 176684  
SOURCE: Byulleten' izobreteniy i tovarknykh znakov, no. 23, 1965, 48  
TOPIC TAGS: molybdenum, rhenium, metal extraction  
ABSTRACT: This Author Certificate introduces a method of selective extraction of molybdenum and rhenium from aqueous solutions. To increase the yield, molybdenum is extracted first, at a pH 1.8-2 with a solution of di-2-ethylhexyl phosphate in kerosene, and then rhenium is extracted with a solution of trioctylamine in kerosene. The re-extraction of molybdenum and rhenium is performed with a 10% ammonia solution.  
SUB CODE: 07 SUBM DATE: 31Jul64/ ATD PRESS: 4185 [ND]  
13

Card 1/1 PR

ZELIKMAN, B.M.

Modernizing vertical milling machines. Stan. i instr. 30 no.1:39  
Ja '59. (MIRA 12:1)

(Milling machines)

ZELIK'AN, E. A.

"Some Ecologicoparasitological Links to the Littoral of the Northern Part of Kandalakshkiy Bay." Cand Biol Sci, Soil Biology Faculty, Moscow Order of Lenin State U imeni M. V. Lomonosov, Moscow, 1955. (KL, No 10, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR HIGHER Educational Institutions (15)

KAMSHILOV, M.M., doktor biol. nauk; ZELIKMAN, N.A.

Specific composition of zooplankton in the shore waters of Eastern Murman. Trudy Murm. biol. sta. 4:41-44 '58. (MIRA 11:5)

1. Murmanskaya biologicheskaya stantsiya Kol'skogo filiala AN SSSR.  
(Murman Coast—Zooplankton)

ZELIKMAN, E.A.

~~Materials on the distribution and reproduction of euphausiids in the littoral zone of the Murman Coast. Trudy Murm. biol. sta. 4; 79-117 '58.~~ (MIRA 11:5)

1. Murmansкая биологическая станция Кол'ского филиала АН СССР.  
(Murman Coast—Euphausiidae)

AUTHOR: Zelikman, E. A.

20-1-57/58

TITLE: On the Ripening of Gonads and Female Fertility in the Mass Species of Barents Sea Euphausiidae (O sozrevanii gonad i plodovitosti samok u massovykh vidov barentsevomorskikh evfauzii.).

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 1, pp. 201-204 (USSR)

ABSTRACT: In view of the uncontested importance of some species of this family of crustaceans for the formation of the biomass of the food-plankton these animals deserve more attention. The methodical difficulties of a numerical determination of these very mobile animals induce the search for indirect ways of the determination of their stand, in this case in the coastal zone of the Murman. 5 years observations showed that only 2 species occur in masses in this zone from the Motovskiy gulf to cape Kanin Nos: Thysanoessa inermis and Th. raschii. Quantitative determinations of their eggs and young animals were already given (reference 3). In coastal waters of Murman mainly 2 years old individuals of these species which are 22 mm long lay eggs. A small percentage is 28 mm long and therefore

Card 1/4

On the Ripening of Gonads and Female Fertility in the Mass 20-1-57/58  
Species of Barents Sea Euphausiidæ

evidently 3 years old. The phases of ripening of the gonads of both sexes are described. A long time before the complete ripeness of the ovary the sperm comes into the thelicum of the female and evidently keeps its capability of fecundation for a longer time. The ripening of the gonad in Th. inermis lasts at leasts 3 months, in Th. raschii about 2 weeks longer. In January it has a size of 1-2 mm and can hardly be recognized. In March it attains a size of about 3 x 4 mm (stage II, figure 1 a). Toward the end of March and the beginning of April oocytes of a size of 0,22-0,30 mm may be distinguished (stage III, figure 1 b). At the beginning of April the gonad is 13-15 mm long and extends from the first segment of the cephalothorax to the second abdominal segment (stage IV, figure 1 v). At the end of April - beginning of May the gonad as a whole properly does no longer exist. The oocytes lying close to the excurrent apertures become hemispherical and surrounded with a thin hyaline perivitellin-membrane. The above-described image is identical in Th. raschii. The eggs are not laid in portions. The maturation of the ovum does, however, not simultaneously take place in all females or in all populations. Table 1 gives a

Card 2/4

On the Ripening of Gonads and Female Fertility in the Mass 20-1-57/58  
Species of Barents Sea Euphausiidae

conception of the fertility of the two species under review. The smaller Th. inermis f. neglecta is less fertile. The typical Th. inermis f. inermis and Th. raschii produce an equal amount of eggs: from 600 to 200 and more according to the size of the females. The largest quantities of eggs of both species counted in the plankton do not exceed 1000 in 1 m<sup>3</sup> of water of the upper 50 m-layer for eggs with 16 blastomeres. For all egg-stages until the nauplius ready for hatching this number amounts to 2000. The number of hatched nauplii of the first stage also does not exceed 1000. Thus it may be assumed that 1 female is in 1 m<sup>3</sup> of water, provided that the animals are equally distributed in the water. The weight of one female is from 70 to 114 mg. According to the results of catch of the station (see Association) the weight of the animals attains 300 mg per 1 m<sup>3</sup>. The above-mentioned calculations show that this number must at least be increased by 30 %. There are 1 figure, 1 table, and 12 references, 9 of which are Slavic.

Card 3/4

On the Ripening of Gonads and Female Fertility in the Mass 20-1-57/58  
Species of Barents Sea Euphausiidae

ASSOCIATION: Murmansk Biological Station, Kola Branch imeni S. M. Kirov  
AS USSR (Murmanskaya biologicheskaya stantsiya Kol'skogo  
filiala im. S. M. Kirova Akademii nauk SSSR)

PRESENTED: September 20, 1957, by I.I. Shmal'gauzen, Academician

SUBMITTED: September 20, 1957

AVAILABLE: Library of Congress

Card 4/4

GOLOVKIN, A.N.; ZELIKMAN, E.A.

Development of Calanus in the breeding area of colonial sea birds  
of the Murmansk Coast. Okceanologiya 5 no.1:117-127 '65. (MIRA 18:4)

1. Murmanskiy morskoy biologicheskiy institut AN SSSR, Dal'niye  
Zelentsy.

ZELIKMAN, E.A.

Ecology of the reproduction of mass species of Euphausiacea  
in the southeastern part of the Barents Sea. Trudy MMBI no.6:  
12-21 '64. (MIRA 17:11)

1. Laboratoriya planktona Murmanskogo morskogo biologicheskogo  
instituta.

ZELIKMAN, E.A.

Trematide larvae of the family Gymnophallidae Morosov,  
1955 (Trematoda: Digenea) and their development. Trudy  
MMBI no.4:186-201 '62. (MIRA 15:11)

1. Laboratoriya hidrobiologii (zav. - M.M. Kamshilov)  
Murmanskogo morskogo biologicheskogo instituta.  
(Kandalaksha) — Digenea  
(Parasites— Cnidaria)

ZELIKMAN, E.A.

Morphology of early developmental stages in euphausiids occurring  
in large masses in the Barents Sea. Trudy MMBI no.3:23-35 '61.  
(MIRA 15:3)

i. Laboratoriya hidrobiologii (zav. -M.M.Kamshilov) Murmanskogo  
morskogo biologicheskogo instituta.  
(Barents Sea--Euphausiidae)

ZELIKMAN, E.A.

Some characteristics of the behavior and possible causes of seasonal vertical migrations of Euphausiacea in the Barents Sea. Trudy Okean kom. 10 no.4:62-67 '60. (MIRA 14:3)

1. Murmanskij morskoy biologicheskiy institut Akademii nauk SSSR.  
(Barents Sea--Euphausiidae)

ZELIKMAN, E.A.; KAMSHILOV, M.M.

Long-term dynamics of the biomass of plankton in the southern part  
of the Barents Sea and factors determining it. Trudy MMBI no.2:68-  
113 '60. (MIRA 14:2)

(Barents Sea—Plankton)

ZELIKMAN, G.A.; MAZEL', Ye.Z.; PRESS, F.P.; FRONK, S.V.; DOBKIN,  
A.S., red.; SHUL'SKIY, A.S., red.

[Silicon transistor diodes and triodes; manufacture techniques] Poluprovodnikovy kremnievye diody i triody, tekhnologija proizvodstva. Moskva, Izd-vo "Energiia," 1964.  
(MIRA 17:8)  
183 p.

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CIA-RDP86-00513R001964410002-4

ZELIKMAN, G.A., inzh.; LEVENBERG, Ya.S., inzh.; LUKASHOVA, I.P., inzh.; SIDOROV,  
Yu.I., inzh.; FRONK, S.V., inzh.

Silicon junction diodes. Elektrichestvo no.1:64-68 Ja '59.  
(MIRA 12:5)

(Transistors)

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001964410002-4"

24(6), 7(7), 8(2)

AUTHORS: Zelikman, G. A., Engineer. SOV/105-59-1-16/29  
Levenberg, Ya. S., Engineer, Lukashova, I. P., Engineer,  
Sidorov, Yu. I., Engineer, Fronk, S. V., Engineer

TITLE: Junction-Type Silicon Diodes (Ploskostnyye kremniyevyye diody)

PERIODICAL: Elektrичество, 1959, Nr 1, pp 64-68 (USSR)

ABSTRACT: This investigation concerns the manufacturing process and electric properties of silicon rectifier diodes of the types D 202 to D 205. These are obtained by the method of melting aluminum with the silicon of the n-type. These diodes are obtained from silicon with a specific resistance of 10-30 ohmcentimeters, and show an operating inverse voltage of 100-400 volts and a rectified current of 400 ma. The admissible working temperature of such diodes is + 125°C. These diodes can be used in circuit schemes for rectifying an alternating current with a frequency up to 100 kilocycles. The construction of these diodes is described. It is based on the construction of the germanium diode D-7. Then the volt-ampere characteristics are examined. The principal properties of the diode are expressed by the volt-ampere characteristics (static characteristics) taken at direct

Card 1/3

## Junction-Type Silicon Diodes

SOV/105-59-1-16/29

current. The static characteristic and the admissible power greatly mark the quality of the diode. But in order to obtain parameters approaching the working method of rectifier diodes, the characteristic is taken at alternating current in a number of cases (dynamic characteristic). The classification of diodes is given. They are divided in 4 groups according to the magnitude of inverse voltage. The diodes shown here may be also connected in series. Finally, the prospects of development of diodes are illustrated. With the use of Si it will become possible in the near future to obtain diodes for inverse voltages of over 1000 volts, rectifier columns and diodes for special purposes with very small return currents and increased limiting frequency. To obtain diodes with high puncture voltage, it might be of advantage to use the stretching method. This method permits to obtain the fields with different conducting capacities of the crystal during the production of the silicon monocrystal. In the development of diodes, attention is directed more and more to the diffusion method. Some preliminary data on the obtaining of p-n-transitions according to the diffusion method are given

Card 2/3

SOV/105-59-1-16/29

Junction-Type Silicon Diodes

here. M. I. Iglitsyn, Candidate of Technical Sciences, discussed the work with the authors. There are 4 figures and 1 table.

SUBMITTED: May 4, 1958

Card 3/3

ZELIKMAN, G. A.

G. A. ZELIKMAN, "Silicon rectifying diodes." Scientific Session Devoted to  
"Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep. '58

The difference between rectifiers made from silicon and other semi-conductor rectifiers (germanium, selenium, copper oxide). The advantages and inadequacies of silicon rectifiers.

Materials from which silicon rectifiers are produced. Peculiarities of these materials.

Materials used to create the rectifying contact ("junction") in silicon (acceptors and donors).

Methods of producing silicon diodes (alloy and diffusion diodes).

Volt-ampere characteristics of silicon diodes. Temperature dependence. The difference of their characteristics from other semiconducting instruments.

Existing types of domestic medium power silicon diodes. Prospective developments.

ZELIKMAN, G.A.; MAZEL', Ye.Z.; PRESS, F.P.; FRONK, S.V.; DOBKIN,  
A.S., red.; SMUL'SKIY, A.S., red.

[Silicon diodes and triodes; their production technology]  
Poluprovodnikovye kremnievye diody i triody; tekhnologiya  
proizvodstva. Moskva, Energiia, 1964. 183 p.  
(MIRA 17:12)

PLYASHKEVICH, A.M.; PLANOVSKIY, A.N.; EULATOV, S.N.; RYABININ, V.A.  
ZELINSKAYA, L.G.

Study of caffeine extraction in the column extractor with  
sieve plates. Med. prom. 17 no. 6:32-36 Je'63 (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsev-  
ticheskiiy institut imeni S. Ordzhonikidze i Moskovskiy insti-  
tut khimicheskogo mashinostroyeniya.

ZELIKMAN, G. F.

Dissertation: "Loss of Alcohol During Transport in Tank Cars." Cand Tech Sci, Central Asia Polytechnic Inst, 14 May 54. Pravda Vostočna, Tashkent, 4 May 54.

SO: SUM 284, 26 Nov 1954

ZELIKMAN, G.F.

Per capita consumption of alcoholic beverages in capitalistic  
countries. Spirt.prom.21 no.2:44-45 '55. (MLRA 8:10)  
(Liquours)

ZELIKMAN, G.F.

Arrangement of the alcohol control section. Spirt.prom. 21  
no.4:20-21 '55. (MLRA 9:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut spirtevoy  
premyshlennosti.  
(Distilling industries--Equipment and supplies)

ZELIKMAN, G.F.

More accurate measuring of alcohol. Spirit. prom. 23 no.4:28-29 '57.  
(MLRA 10:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut spiritovoy promyshlennosti.  
(Distilling industries--Equipment and supplies)

ZELIKMAN, G.F.

Increasing labor productivity by means of new equipment, mechanization and automatic control. Sputn. prom. 23 no. 5:24-26 '57.

(MLRA 10:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut spritovoy pro-myshlennosti.

(Alcohol)

ZELIKMAN, G.F.

Economic effectiveness of the complete utilization of raw  
materials in processing sugar beet molasses into alcohol. Trudy  
TSNIIISP no.7:167-172 '59.  
(Sugar beets) (Alcohol)  
(MIRA 13:9)

ZELIKMAN, G.F.

Promoting industrial safety in alcohol plants. Spirt. prom. 25  
no. 7:26-28 '59. (MIRA 13:2)  
(Distilling industries--Safety measures)

GRYAZNOV, Vyacheslav Pavlovich, kand. tekhn. nauk; ZMLIKMAN, Grigoriy Fedorovich, kand. tekhn. nauk; KUZNETSOV, N.M., inzh., retsenzent; FERTMAN, G.I., kand. tekhn. nauk, spetsred.; RISH, G.S., red.; CHIBYSHINA, Ye.A., tekhn. red.

[Calculation, storage and transportation of distilled spirits]  
Uchet, khranenie i transportirovka spirta. Moskva, Pishchepromizdat,  
1958. 179 p.

(Alcohols)

(MIRA 11:7)

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CIA-RDP86-00513R001964410002-4

ZELIKMAN, G.F.

Combining starch and alcohol production in alcohol plants.  
Spirt. prom. 24 no.7:30-31 '58.

(alcohol) (Starch)

(MIRA 11:11)

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GUTERMAN, V.M.; GARNER, M.Ye.; GAMOL'SKAYA, Z.M.; Prinimali uchastiye: ZELIKMAN,  
I.D.; TSYPIH, I.I.; KEL'MANSON, V.I.; KISELEVA, V.S.; MIKHAYLOVSKAYA, S.S.;  
GRINBERG, A.Ya.; MARKIN, I.S.

Raising the wear resistance of equipment parts operating in a hydraulic  
abrasive medium. Ugol' 39 no.9:61-63 S '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-tehnologicheskiy  
institut ugol'nogo mashinostroyeniya.

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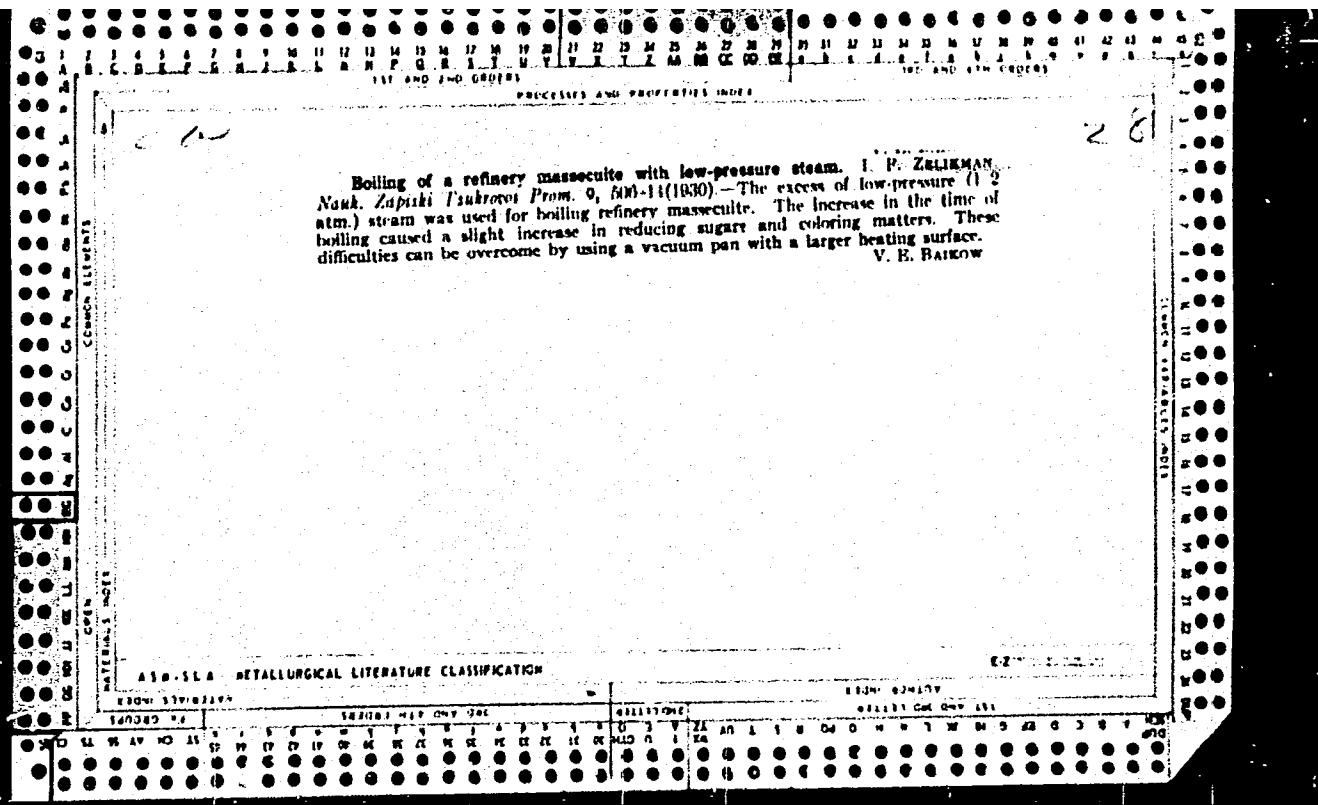
Investigation of the conditions for increasing the velocity of crystallization in "sugar loaves." M. I. NAKHMANOVICH AND I. P. ZILKMAN. *Nauk. Zapiski Trub-rovsk Prom.*, 9, 450-92 (1930).—A no. of expts. in different refineries in Russia showed that velocity of cryst. in sugar loaves greatly increases with a sharp decrease of the temp. The most convenient temp. in the cooling rooms is  $+8^{\circ}$ - $+10^{\circ}$ . In summer the low temp. can be maintained with the aid of ventilating fans. The increased rate of the cooling does not affect the quality of the refined sugar. The hardness and the color of the latter remain practically the same as during the cooling of the sugar loaves at the higher temps. The bleaching of the sugar is normal. A no. of tables and diagrams are included. V. V. BAIKOV.

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ASH-SEA METALLURGICAL LITERATURE CLASSIFICATION

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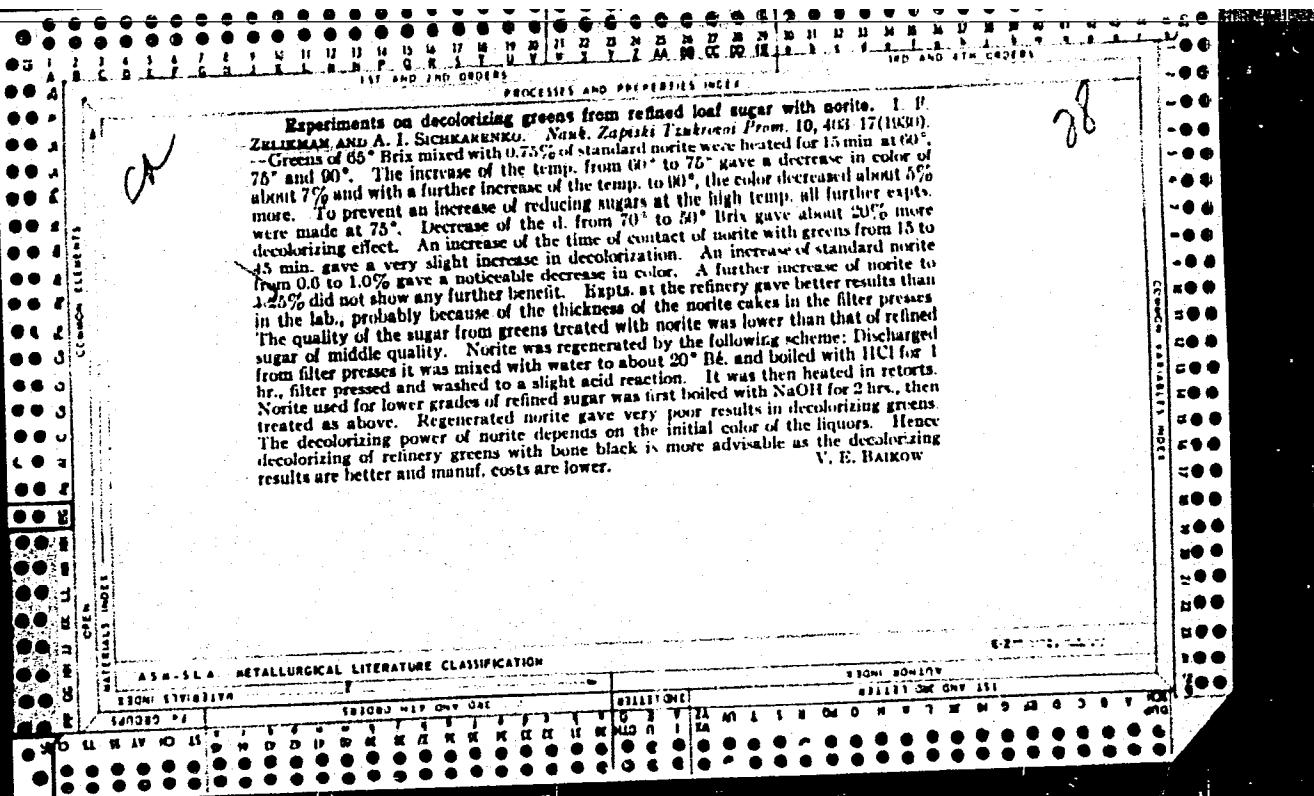
The quality of the sweet (washed) water from the bone-black filters. M. I. NAKHMANOVICH AND I. E. ZELIKMAN. *Nauk. Zapiski Tashkent Prov.* 10, 61-74 (1930).—From a no. of expts. the following conclusions can be drawn: With decrease of the density, the proportion of non-sugars increases. The sweet water washes out from the char the coloring matter adsorbed in the early stages of the filtration. Washing should be stopped when the sweet water decreases to 2.5 liter (1.5-1.6% of sugar). V. B. BAIKOV.

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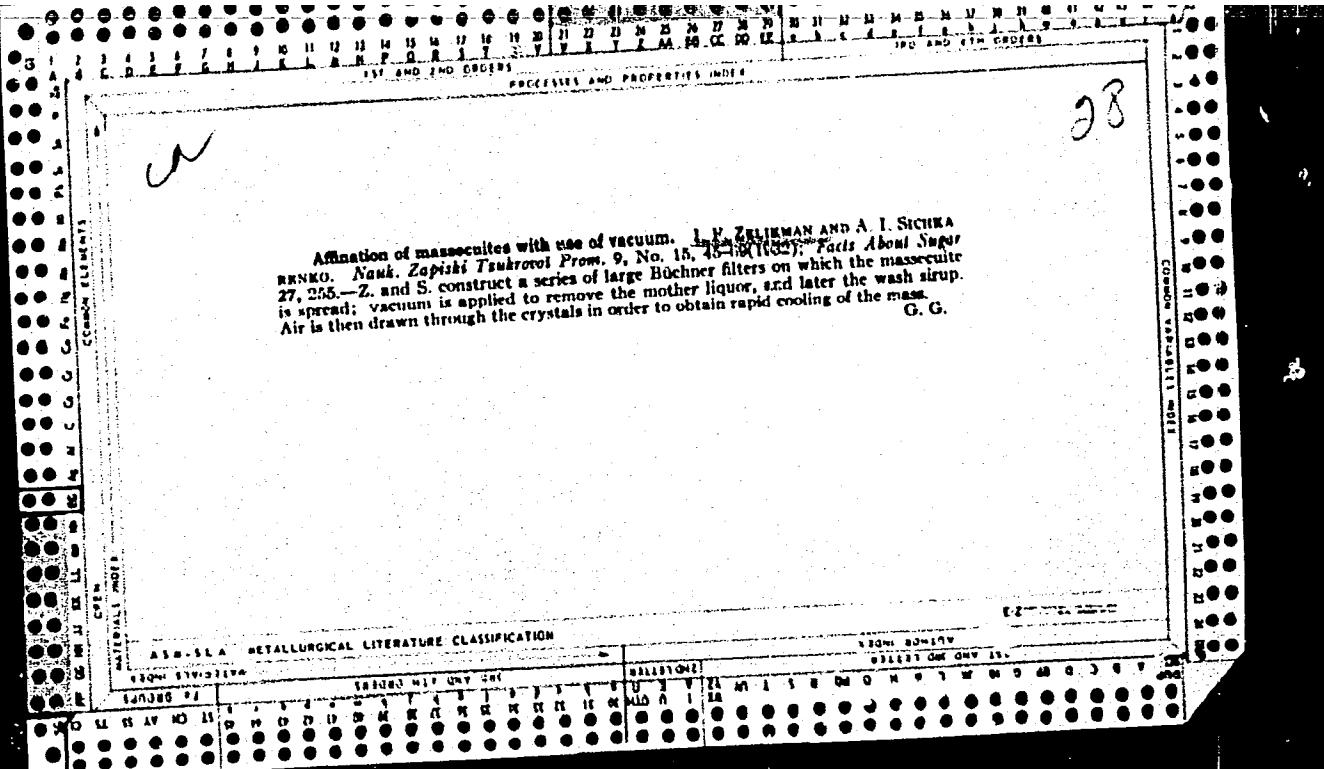
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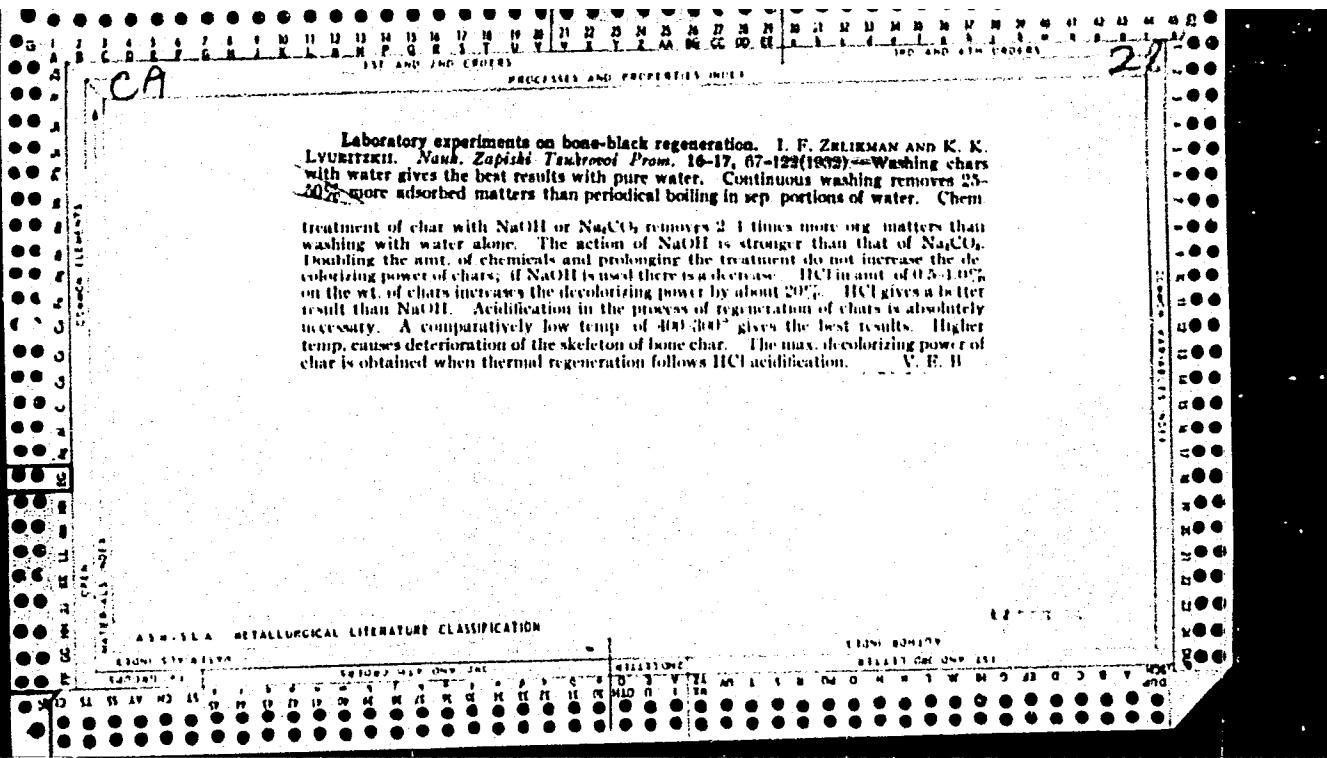


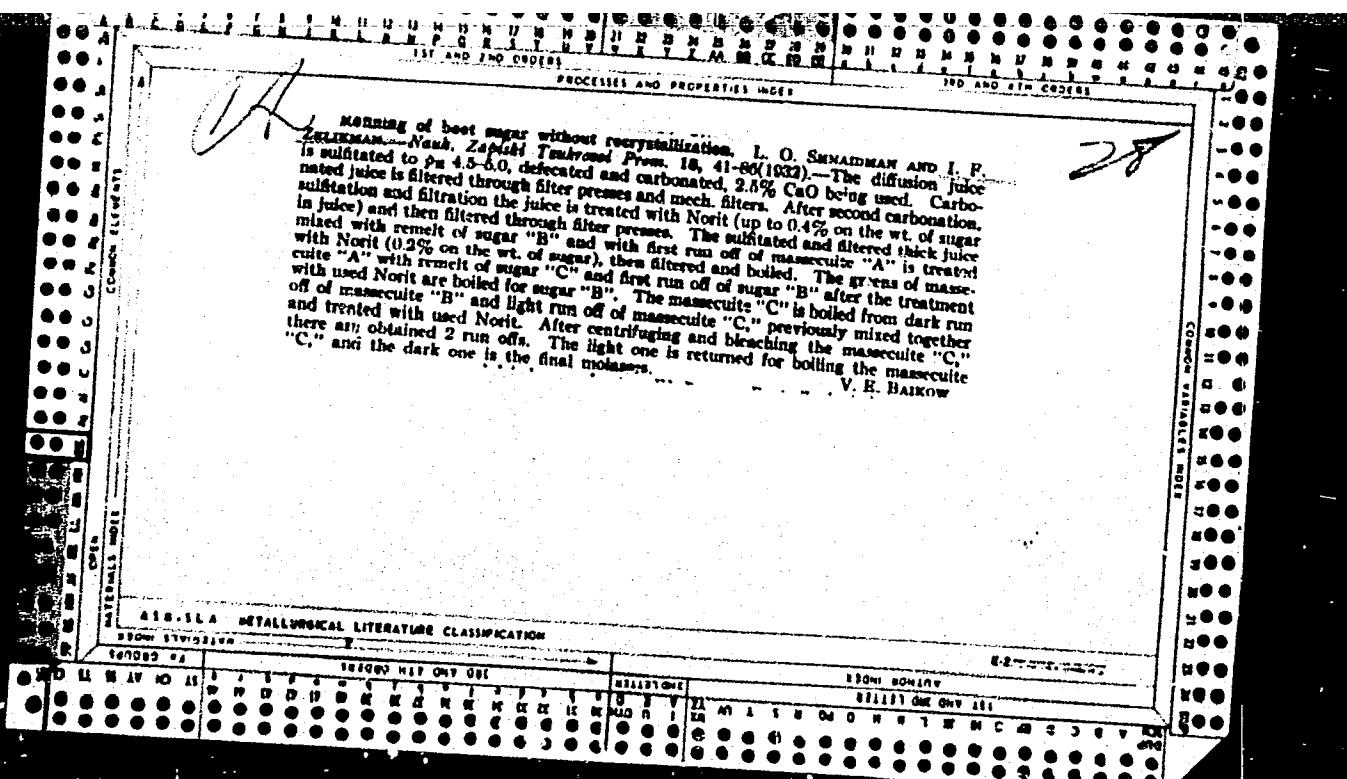
Manufacturing of refined sugar directly from thick beet juice. I. F. ZELIKMAN AND B. YU. BUKHIN. Nauch. Zapiski Tsel'kovo Prom. 12, 85-91(1931) — Manual of refined beet sugar directly from sugar beet thick juice filtered through bone black is possible. Satisfactory results were obtained from expts. V. K. RAIKOV

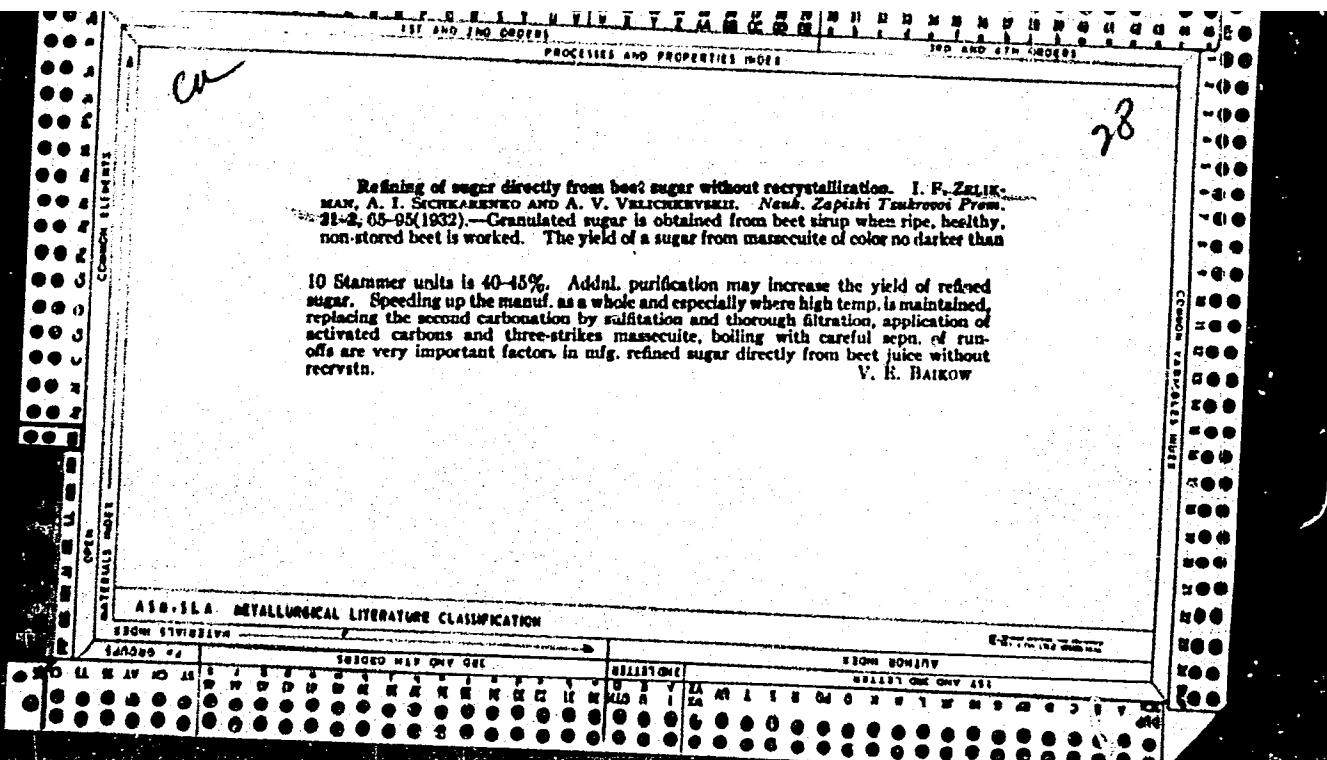
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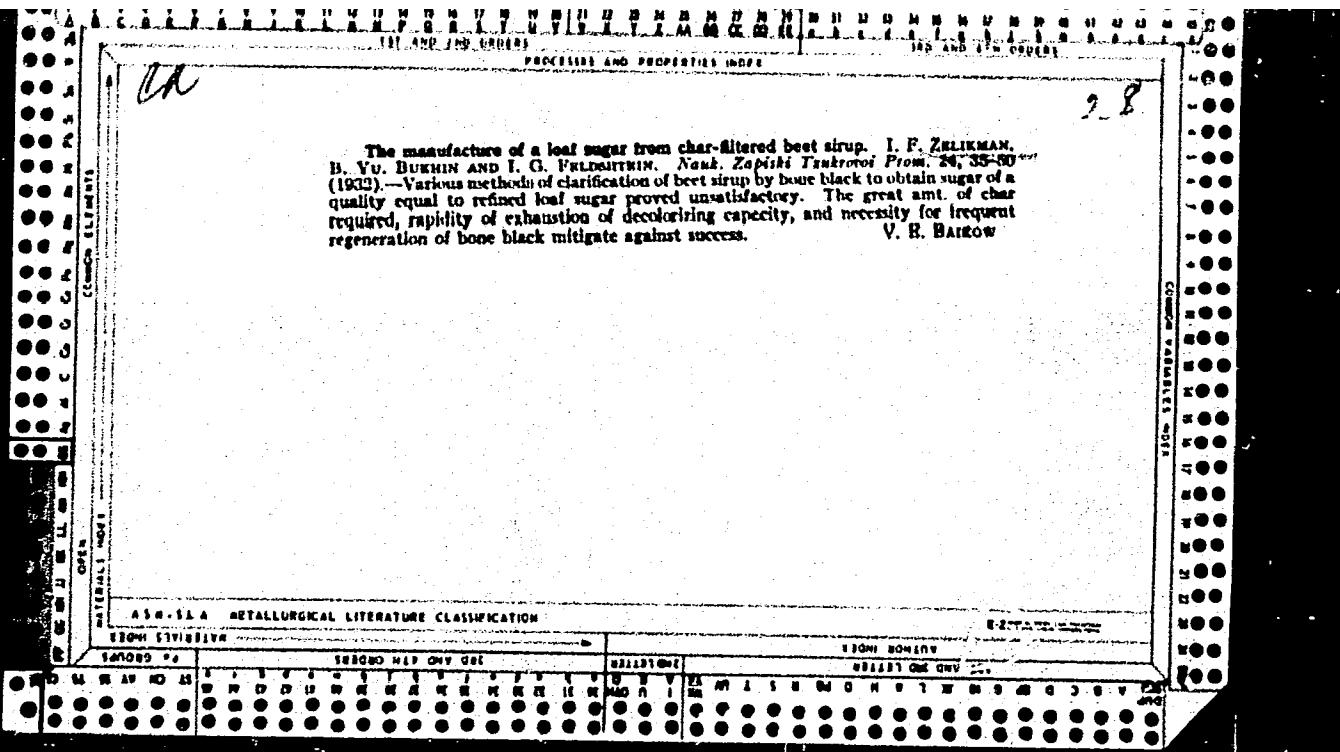
RECEIVED AND PROPERTIES INDEX			
<p><i>Con</i></p> <p>Direct production of rammade without recrystallizing. I. V. ZNLIKMAN AND L. O. SUNAIDMAN. <i>Nauk. Zapiski Tzukrov. Prom.</i>, 9, No. 16, 1-4 (1932); <i>Patent Best Sugar</i> 27, 253; cf. C. A. 26, 5444; 27, 123. —In the production of loaf and "flat" sugar by direct pressing of best "sand sugar" without affination and recrystallization, satisfactory results can be obtained if the following conditions are observed: The sand sugar must be mildly alk. (<math>pH</math> 7.2-7.5); the pressing must be done in the cold, the moisture content of the mass (to which a little powd. sugar may be added) should not exceed 1.5%, and depends on the degree of pressure applied; the pressed layer must be dried at a temp. not exceeding 70°; the original color of the sand sugar subjected to pressing must be sufficiently low (about 25° Stammer). For factory conditions where high-powered presses are not available, good results may be had by giving the mass a moisture content of 1.5% and a powd. sugar content of 15% and by using a pressure of 70 atm. If the presses are sufficiently powerful, good loaf can be made without addn. of powd. sugar. Under otherwise equal conditions the solidity of the cubes increases as the amt. of powd. sugar is increased, reaching a max. when the ratio of crystal to powder is 1:1; beyond this the solidity decreases. Cubes having the best outer appearance are obtained by pressing sugar of fairly large grain. G. G.</p> <p style="text-align: right;">28</p>			
METALLURGICAL LITERATURE CLASSIFICATION			
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11 15 16 17 18	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>







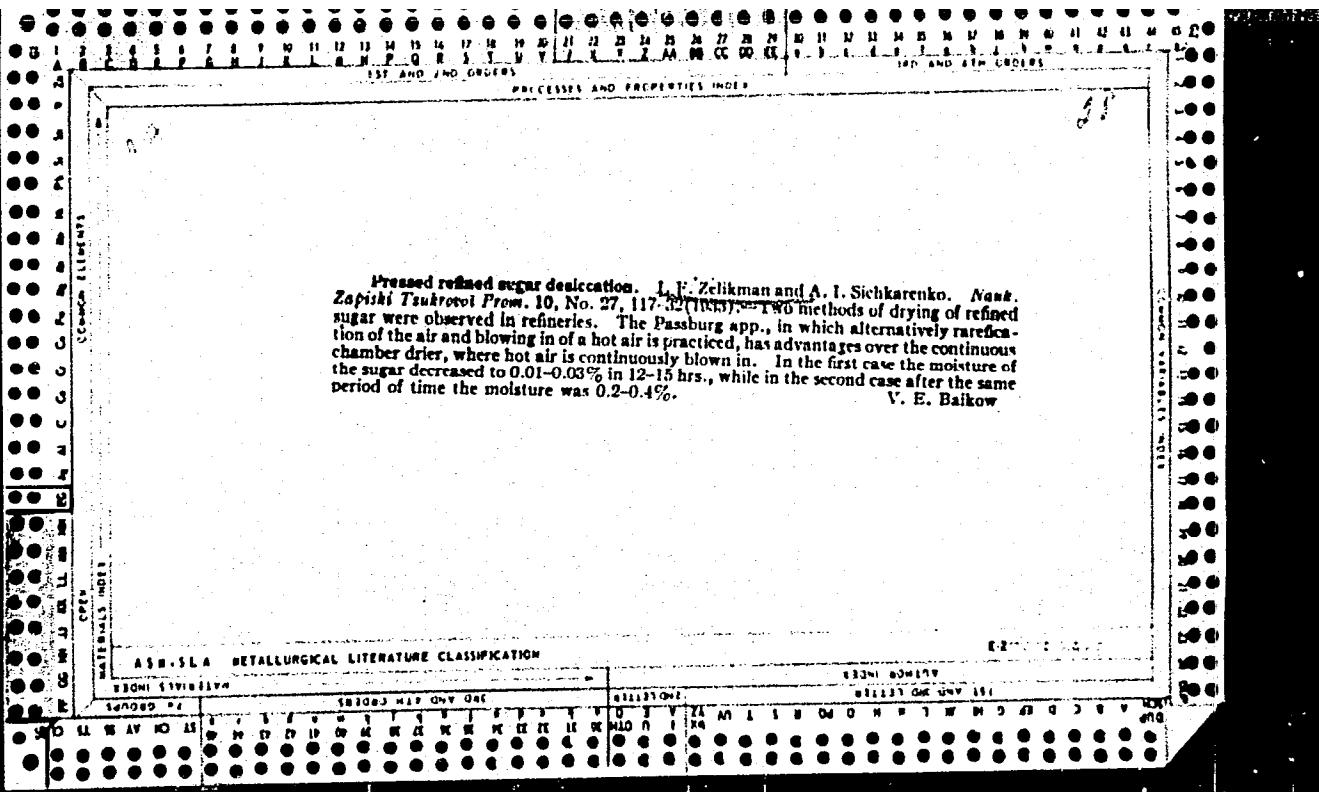


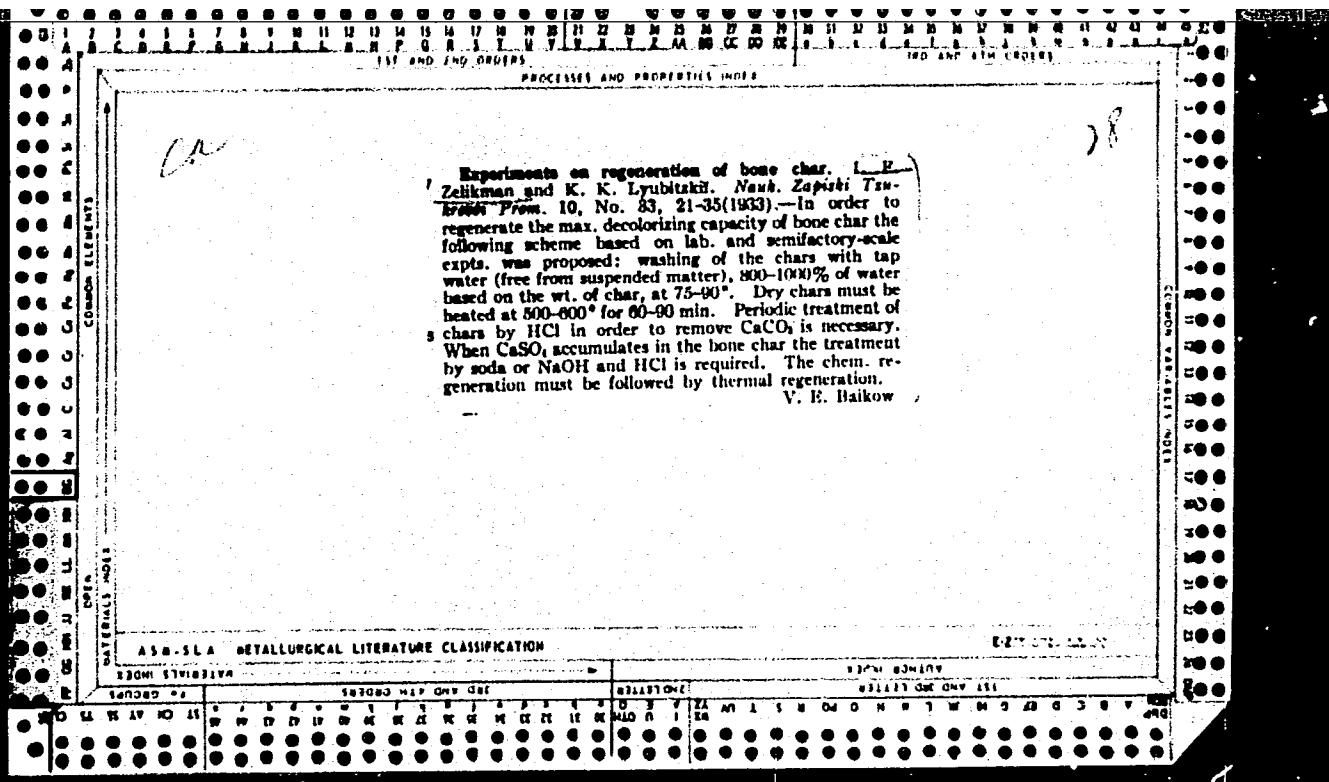


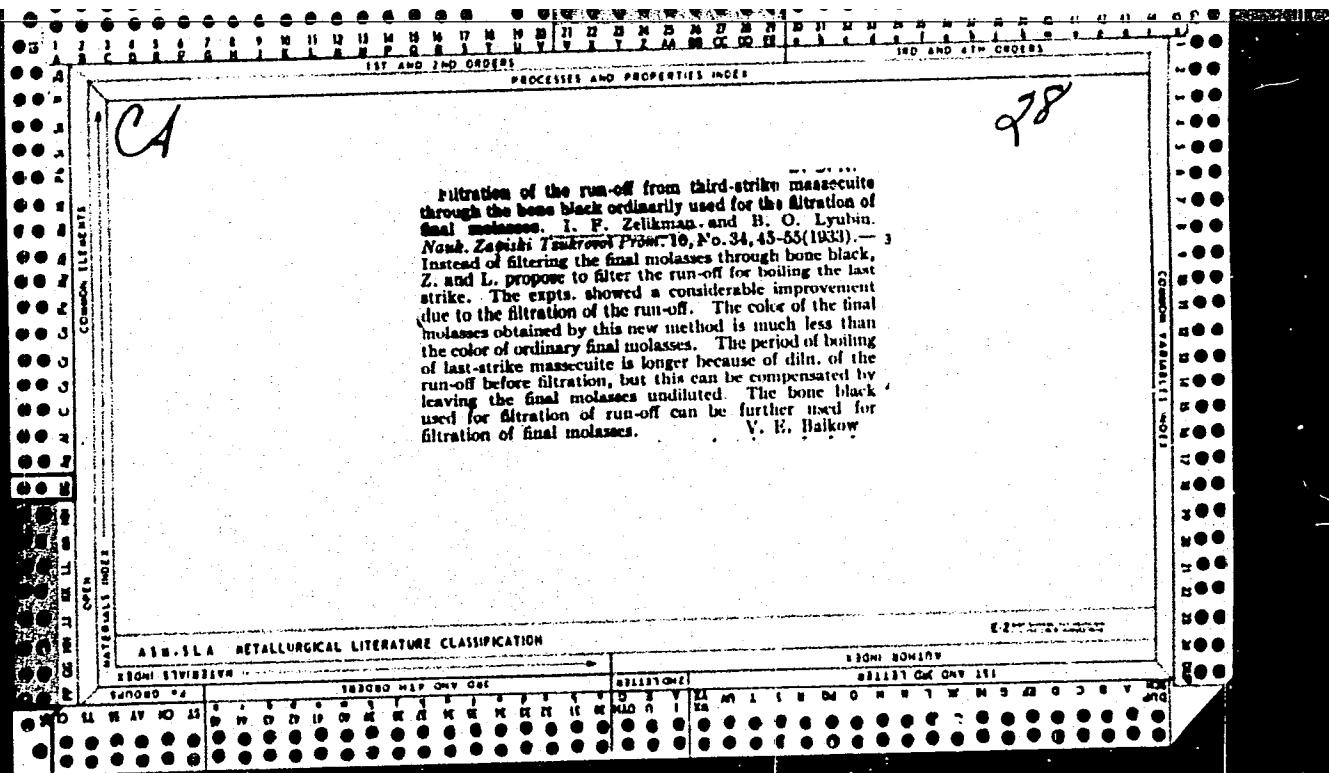
**The filtration of refractory molasses.** J. P. ZHIGELMAN, K. K. LYONNIKOV AND B. O. LYUBIN. *Nauk. Zapiski Tzukerski Prost.* 25, 47-50 (1932).—The increased density of refinery liquors to 74-75° Brix with the object of decreasing the amt. of steam required for further evapn. has the disadvantage of poorer color adsorption by bone black because of the thickness of the liquor. With the following method it is possible to obtain the high decolorizing effect of char without increasing the amt. of steam. The thick diluted with sweet water to 45-48° Brix is filtered through bone black and then is used for melting the sugar. This melt of 73-78° Brix is filtered through bone black again or through mech. filters. The max. decolorization is obtained when the ratio of the rate of filtration of the thin and thick liquors is as 1:2.4. The decolorizing effect of double filtration is 20% higher as compared to that of thick-liquor single bone-black filtration. The amt. of bone black is not increased. V. R. BATKOW

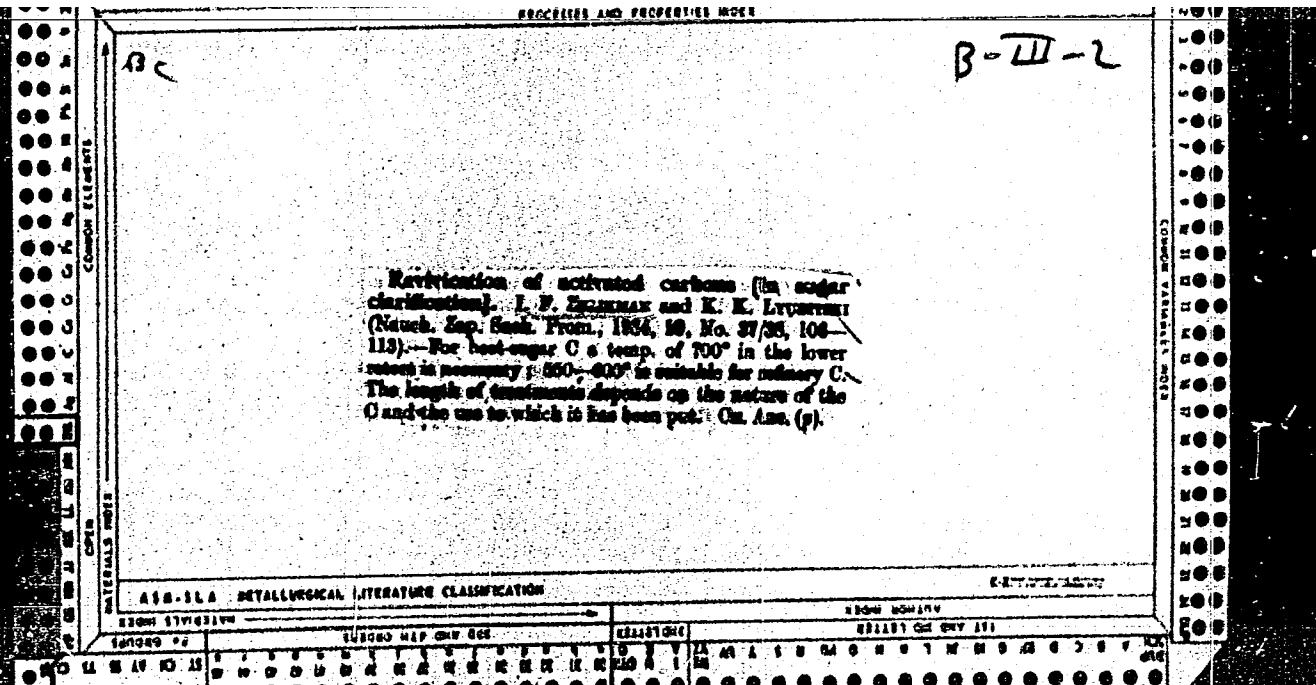
V. R. BAIKOW

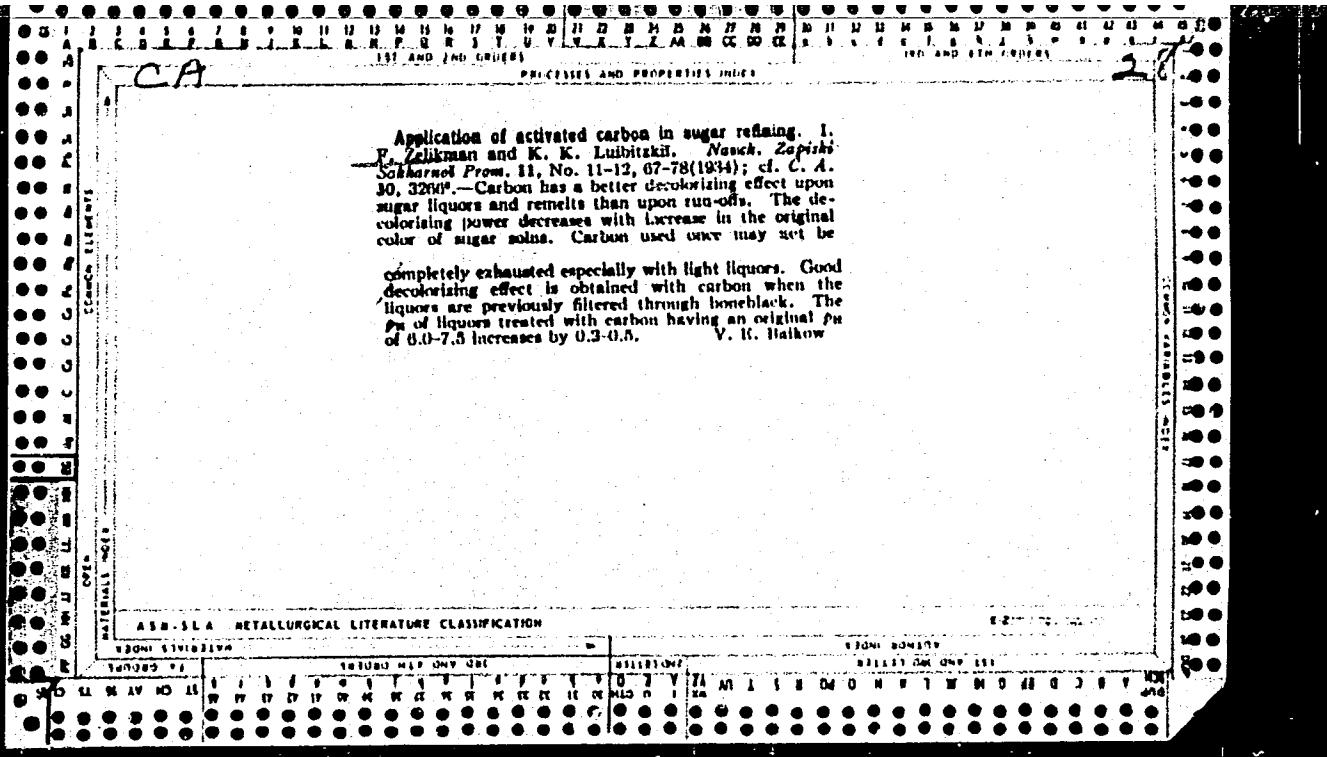
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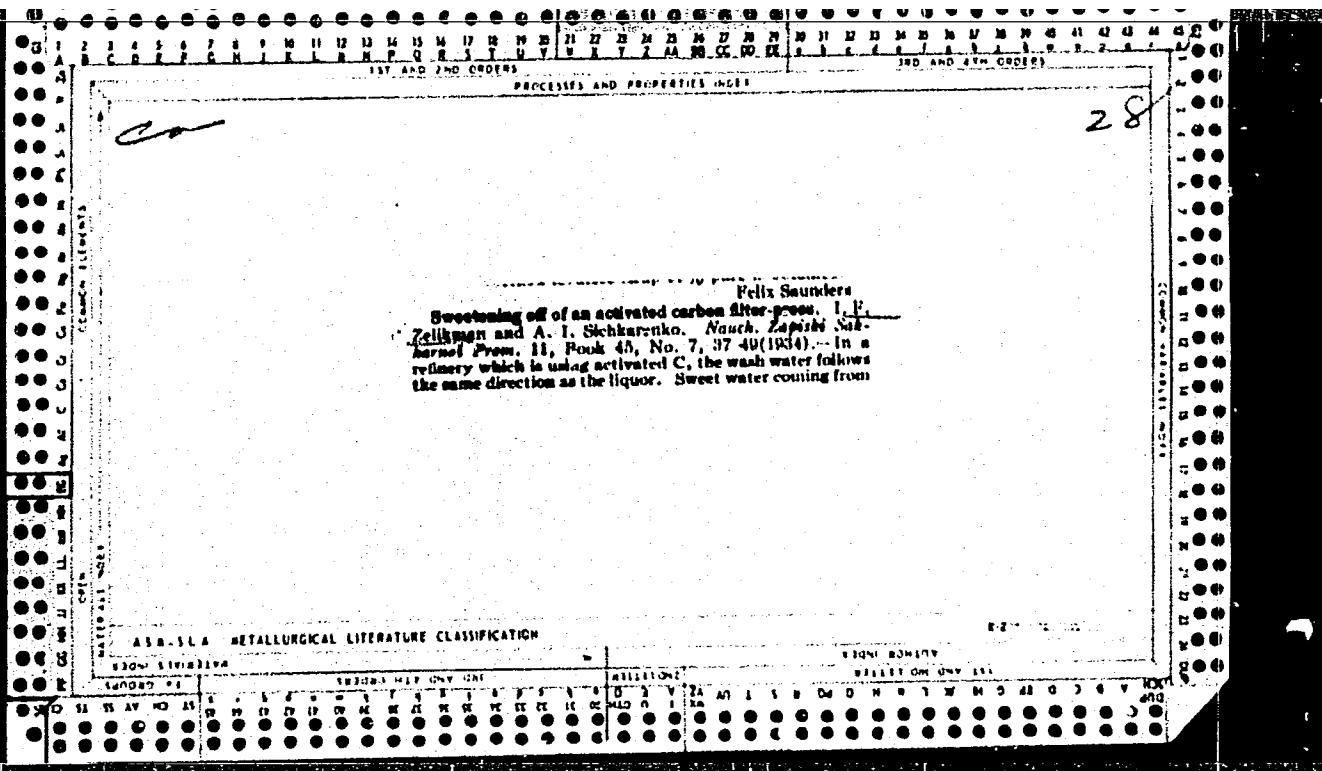






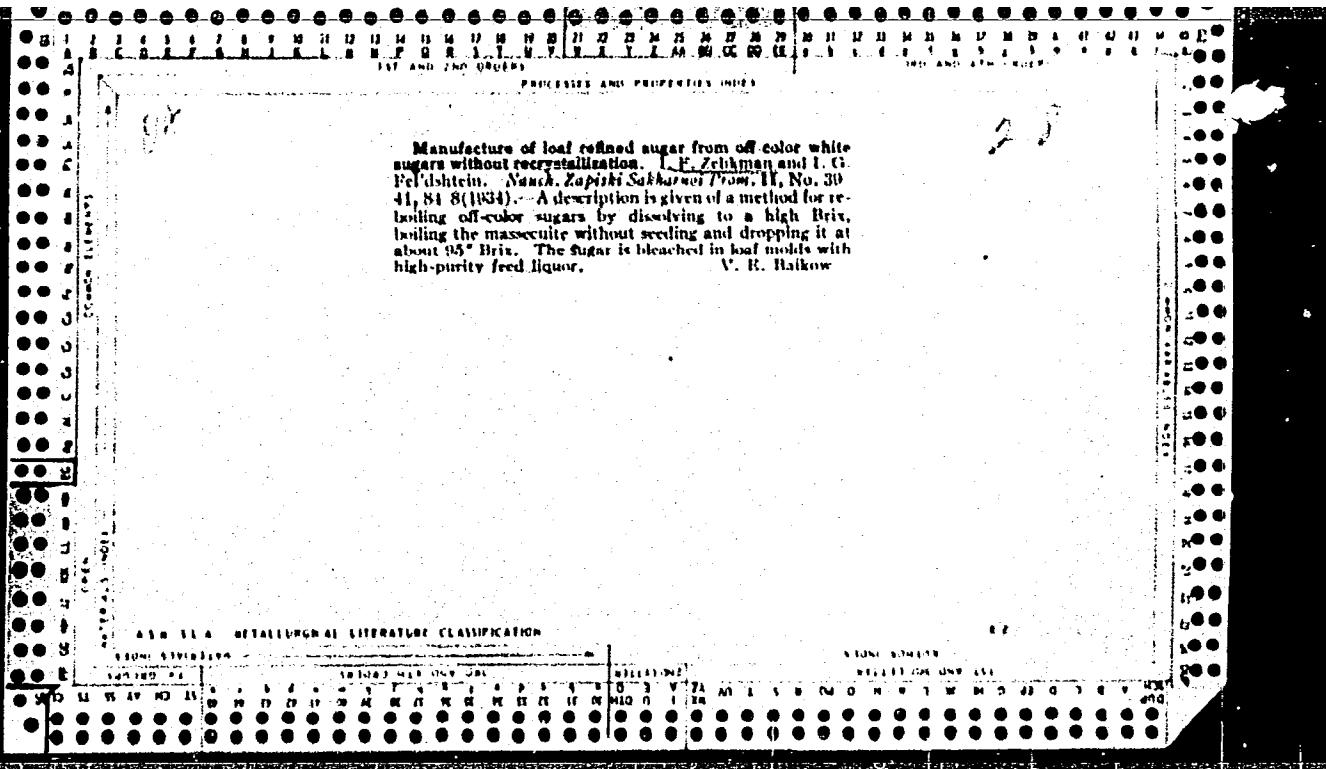


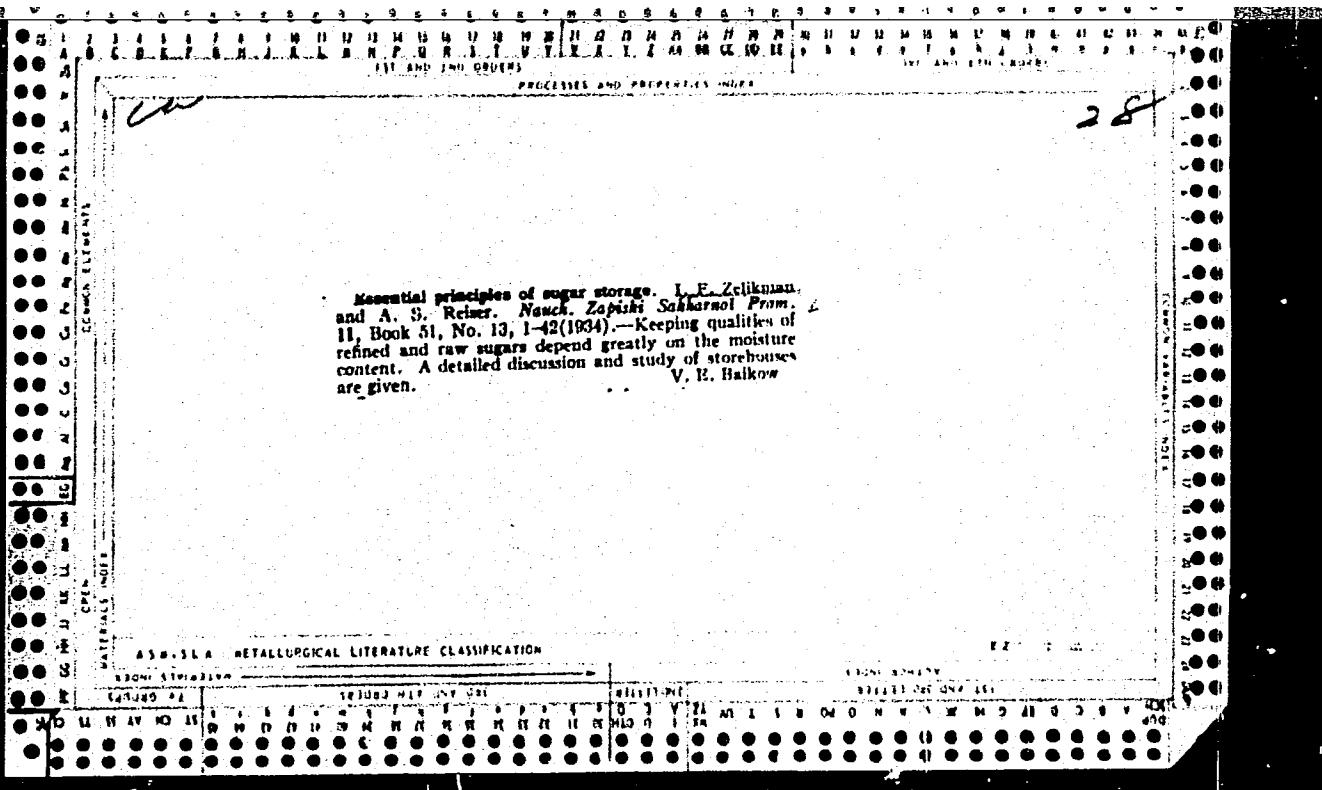


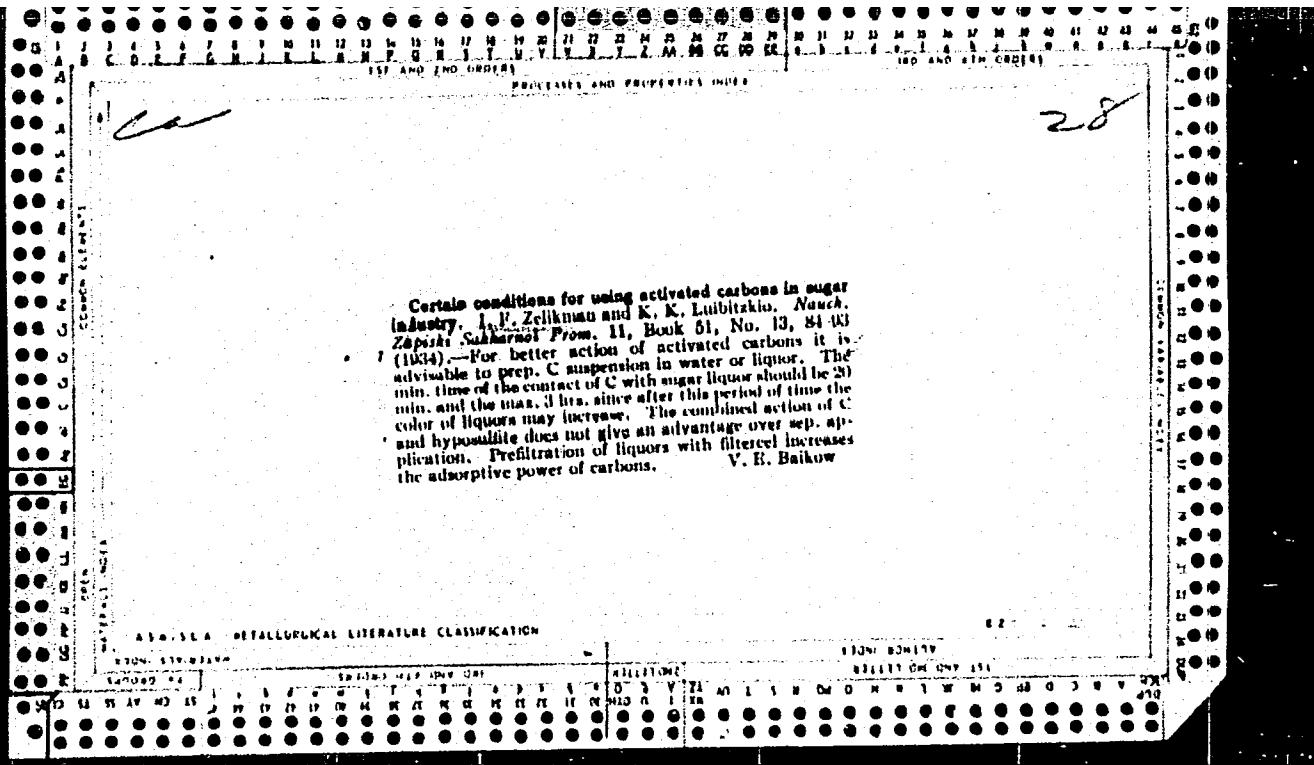


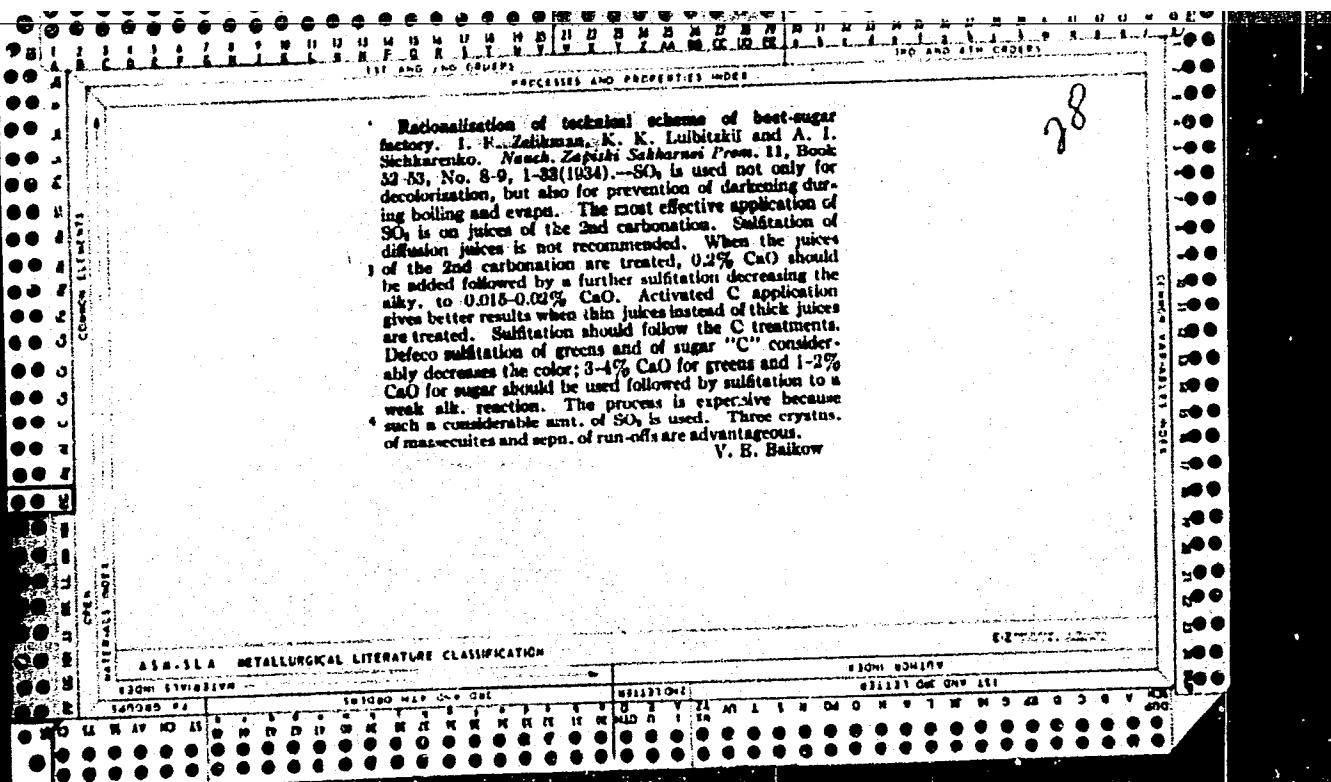
Conditions for pressing sugar tablets and cubes.  
V. F. Zelikman and A. I. Sichkarenko. Naučn. Zapiski Vsesoyuzn. Prom. II, Book 32-33, No. 8-9, 57-77 (1934).  
V. I. Baikov

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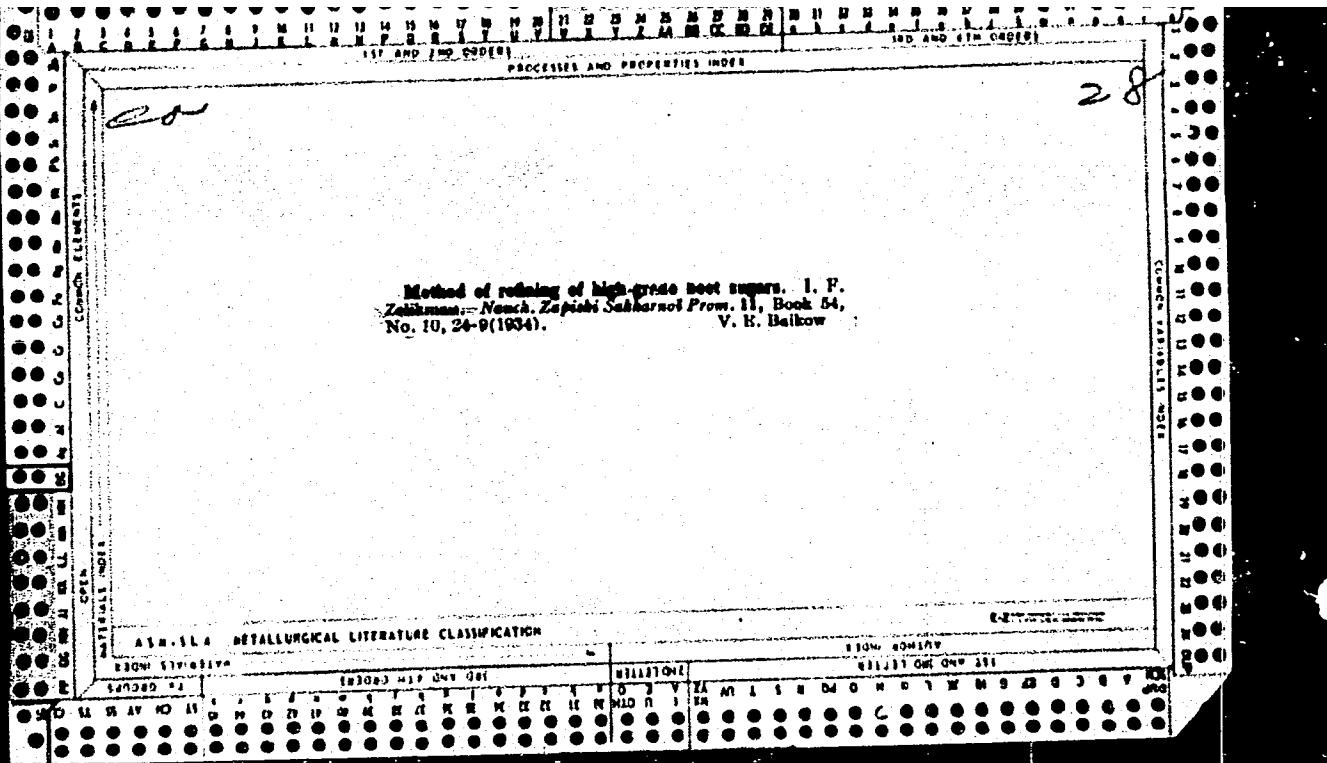






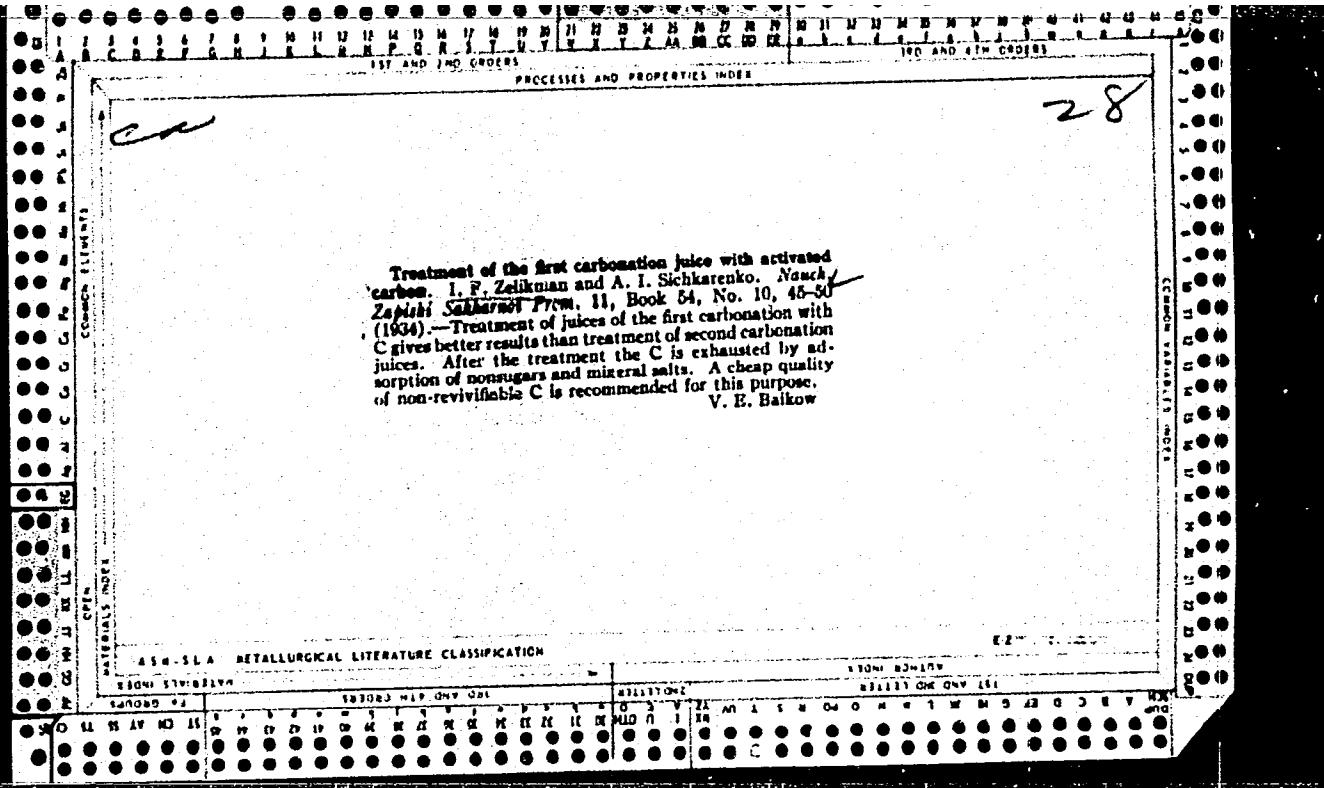
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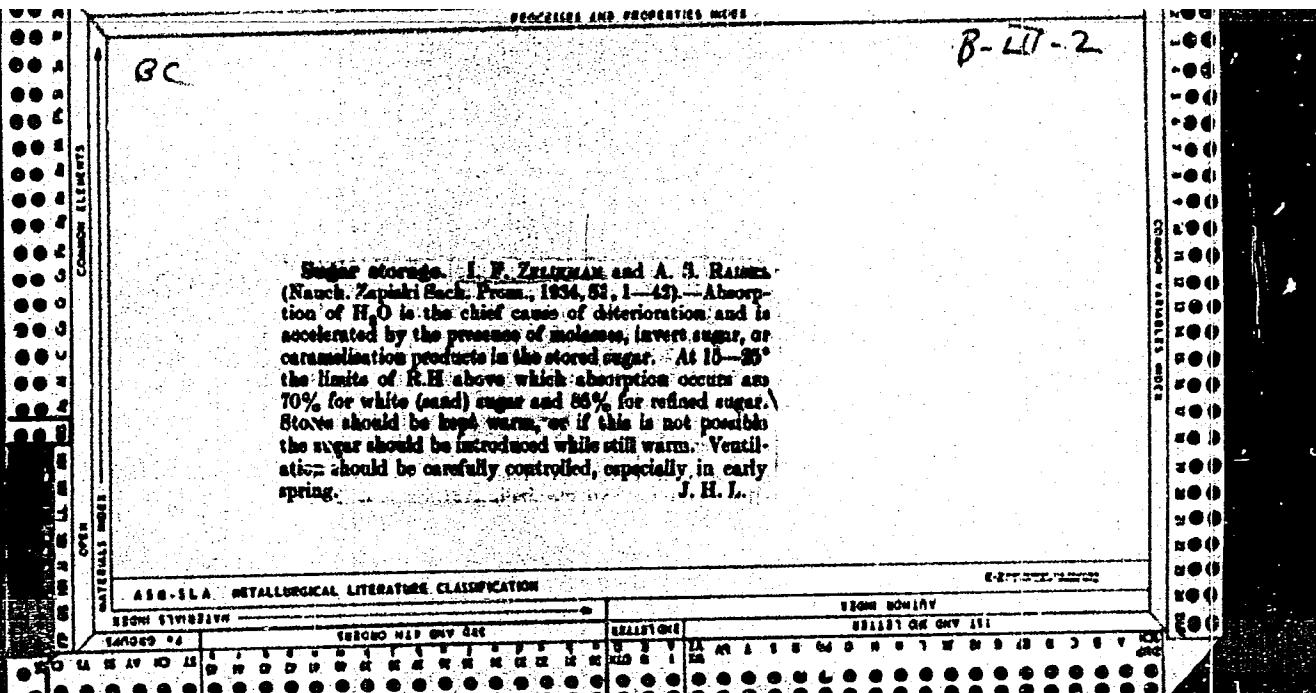
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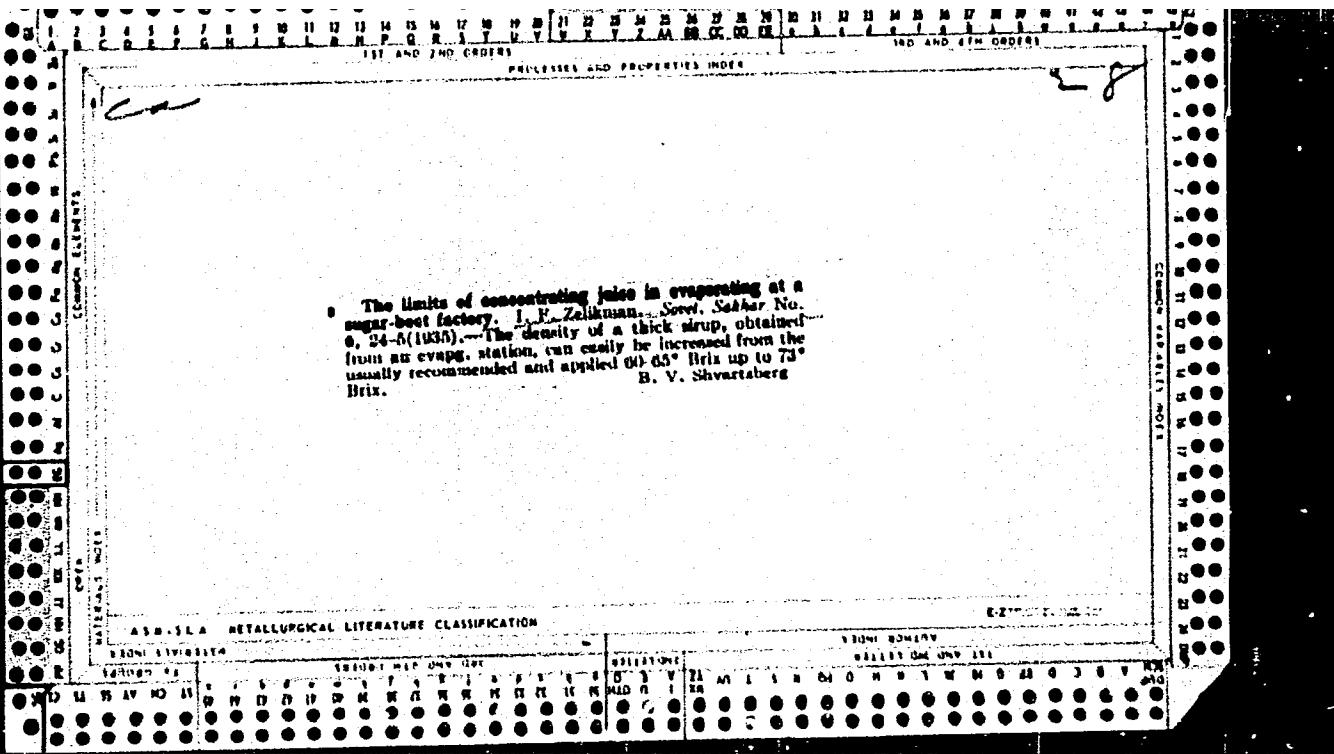


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*Section 2*

Increasing production of pressed refined sugar. I. V. Zelikman  
(Sakhar. Prom., 1952, No. 2, 18-19; Sug. Ind. Abstr., 1952, 16,  
A2).—Masscuites for cast sugar production are usually boiled to  
higher "Brix and higher crystal content than when boiling for pressed  
sugar, sugar yields being 85 and 55—86%, respectively. Pressed  
sugar yields are improved by boiling the masscuites to higher "Brix,  
by increasing the crystallization in the mixers by further cooling,  
and by washing in the centrifuge with clairce instead of water.  
P. S. ARUP.

LEYBOVICH, D. M.; ZELIKMAN, I. F.; TROYANOVA, N. L.

Rapid method of determining the coefficient of saturation of  
solutions in sugar manufacture. Izv. vys. ucheb. zav.; pishch.  
tekhn. no. 5:137-143 '62. (MIRA 15:10)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra  
tekhnologii sakharistykh veshchestv.

(Crystallization—Testing)  
(Sugar manufacture)

KHASANOV, A. K.; ZELIKMAN, I. F.

Testing clarifiers for the products of confectionery factories  
having own refinery shops. Izv. vys. ucheb. zav.; pishch.  
tekhn. no.5:84-91 '62. (MIRA 15:10)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra  
tekhnologii sakharistykh veshchestv.

(Confectionery) (Bleaching)

ZELIKMAN, I.F.

Coefficient of molasses yield in calculating factory production. Sakhar-naya Prom. 27, No.1, 19-20 '53. (MLRA 6:1)  
(CA 48 no.1:393 '54)

ZELIKMAN, I.F., professor; DEMCHINSKIY, F.A., inzhener; ZHIGALOV, S.F.,  
professor, retsenzent; PIYANKOV, G.A., inzhener, redaktor; MASLOVA,  
Ye.F., redaktor; DUBOVKINA, N.A., tekhnicheskiy redaktor

[Lump sugar production] Proizvodstvo pressovannogo sakha-rafinada.  
Moskva, Pishchepromizdat, 1954. 298 p. (MIRA 8:7)  
(Sugar industry)

ZELIKMAN, I. F.

USSR/Chemical Technology - Chemical Products and Their Application. Fermentation  
Industry, I-27

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63561

Author: Zelikman, I. F., Dzhamelov, M. D.

Institution: None

Title: Accelerated Filtration of Beer Wort

Original  
Periodical: Dokl. AN UzSSR, 1955, No 11, 17-20; Uzbek résumé

Abstract: Laboratory experiments (under conditions approximating manufacturing) have shown that average filtration rate of beer wort over 40 minutes through a layer of settled sediment increases by 30% of raising the pressure from 0.07 to 0.34 atm, and by 80% on raising the pressure from 0.14 to 0.54 atm. A suitable redesigning of brewery filtration tank to permit filtration of wort under gradually increasing pressure will increase output of the tank; make it possible to increase com- minution of malt in order to raise yield of extracted substances, lower moisture content of crushed material and decrease the amount of wash water.

Card 1/1

ZELIKMAN, I.F.

PARSHIKOV, M.Ya.; MAKHINYA, M.M.; SILIN, P.M.; YAPASKURT, V.V.; TEPISHIN, A.S.;  
SHAKIN, A.N.; ZHIDKOV, A.A.; KHELEMSKIY, M.Z.; KARTASHOV, A.K.; BENIN, G.S.  
LEPESHKIN, I.P.; KRASNYUK, G.M.; ZHVIRKO, I.S.; ZELIKMAN, I.F.; KHEYZE, N.V.

Birthday of P.V.Golovin. Sakh.prom.29 no.5:7 '55. (MLRA 8:11)  
(Golovin, Pavel Vasil'evich, 1880-)

ZELIKMAN, I.F.

GANKE, A.A.

Needed book ("Production of pressed sugar." I.F.Zelikman, F.A.  
Demchinskii. Reviewed by A.A.Ganke). Sakh.prom. 29 no.7:46-47  
'55. (Sugar industry) (Zelikman, I.F.) (Demchinskii, F.A.)  
(MLRA 9:1)

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*Cont. Ocean Polytex Inst.*

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ZELIKMAN, I.F.

Eliminate unnecessary analyses in refinery laboratories. Sakh.  
prom. 30 no.11:14-16 N '56. (MLRA 10:2)

1. Sredneaziatskiy politekhnicheskiy institut.  
(Sugar industry)

ZELIKMAN, I.F.; ABDULLAYEV, T.A.

Saturation coefficient and additional sugar extraction from final  
molasses. Sakh. prom. 31 no.2:11-13 F '57. (MLRA 10:4)

1. Sredneaziatskiy politekhnicheskiy institut.  
(Molasses) (Sugar industry)

ZELIKMAN, I.Y.

Concentration and quality of clear liquor. Sakh.prom. 31 no.3:20-  
23 Mr '57. (MLRA 10:4)

1.Sredneaziatskiy politekhnicheskiy institut.  
(Sugar industry)

ZELIKMAN, I.F.

Sugar refinery with a raffinade section. Sakh.prom. 31 no.7:17-20  
J1 '57. (MLRA 10:8)

1. Sredneaziatskiy politekhnicheskiy institut.  
(Sugar industry)

"APPROVED FOR RELEASE: 07/19/2001

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ZELIKMAN, I.F.; OYKHMAN, M.D.

Operation of sugar refineries. Sakh.prom. 31 no.8:19-22 Ag '57.  
(Sugar industry)

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~~ZELIKMAN, I.F.~~

~~ZELIKMAN, I.F.~~

Regulating technical terminology. Sakh.prom.31 no.9:11-12 S '57.  
(MIRA 10:12)

1. Sredneaziatskiy politekhnicheskiy institut.  
(Sugar industry--Terminology)

ZELIKMAN, I.F.

ZELIKMAN, I.F.

Concerning the suggestions of M. and A. Il'kromolinskii. Sakh. prom.  
31 no.11:65-66 N°57. (MIRA 11:1)

1. Sredneaziatskiy politekhnicheskiy institut.  
(Sugar industry)

GUSEV, Ye.A.; ZELIKMAN, I.F.

Analysis of the work of sugar refining factories during 1960.  
Sakh.prom. 37 no.6:8-13 Je '63. (MIRA 16:5)

1. Gosudarstvennyy komitet po pishchevoy promyshlennosti pri  
Gospplane SSSR (for Gusev). 2. Krasnodarskiy institut pishchevoy  
promyshlennosti (for Zelikman).  
(Sugar factories)

KHASANOV, A.K.; ZELIKMAN, I.F.

Manufacture of confectionery products from refining effluents  
and granulated sugar of various coloring. Izv.vys.ucheb.zav.;  
pishch.tekh. no.1;104-106 '64. (MIRA 17:4)

1. Krasnodarskiy politekhnicheskiy institut, kafedra tekhnologii  
sakharistykh veshchestv.

ZELIKMAN, I.F.; TROYANOVA, N.L.

Rate of crystallization of sucrose from a mixture of sugar beet  
syrup and the unrefined cane sugar solution. Sakh.prom. 36  
no.9:21-23 \$ '62. (MIRA 16:11)

1. Krasnodarskiy institut pishchevoy promyshlennosti.

LEYBOVICH, D.M.; ZELIKMAN, I.F.

Transfer of saccharose through the ion exchange membranes during the  
electrodialysis purification of its solutions. Sakh.prom.37 no.9:30-  
36 S '63. (MIRA 16:9)

1. Krasnodarskiy politekhnicheskiy institut.  
(Sucrose) (Electrodialysis)

ZELIKMAN, Isaak Fedorovich; DEMCHINSKIY, Fedor Antonovich; P'YANKOV,  
A.G., retsenzent; GUSEV, Ye.A., retsenzeng; FUKS, V.K., red.;  
ZARSINCHIKOVA, L.N., tekhn. red.

[Manufacture of lump sugar] Proizvodstvo pressovannogo sakhar-  
rafinada. 2., perer. i dop. izd. Moskva, Pishchepromizdat,  
1962. 367 p. (MIRA 15:12)

(Sugar manufacture)

ZELIKMAN, I.F.

Calculation of the products of the combined processing of raw  
cane sugar and sugar beets in a factory with a refining section.  
Izv.vys.ucheb.zav.; pishch.tekh. 2:93-97 '62. (MIRA 15:5)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra  
tekhnologii sakharistykh veshchestv.  
(Sugar manufacture)

ZELIKMAN, I.F.

Permissible moisture content of raw sugar in storage. Sakh.  
prom. 35 no.12:28-31 D '61. (MIRA 15:1)

1. Krasnodarskiy tekhnologicheskiy institut pishchevoy  
promyshlennosti. (Sugar—Storage)